

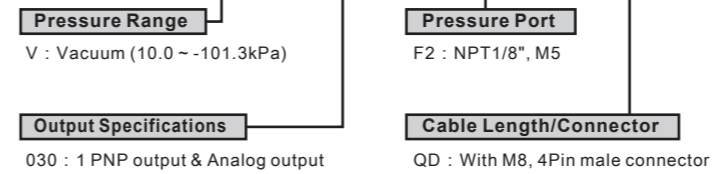
For your safety, please read the following before using.

- Do not use corrosive or flammable gas or liquid with this product.
- Please use within the operating pressure range. Do not apply pressure beyond recommended maximum pressure, permanent damage to the pressure sensor may occur.
- Do not drop, hit or allow excessive shock. Even if switch body appears undamaged, internal components may be broken and can cause malfunction.
- Turn power off before connecting wiring. Wrong wiring or short circuit will damage and/or cause malfunction.
- Do not use in environment containing steam or oil vapor.
- This product is not explosion-proof rated. Do not use in atmosphere containing flammable or explosive gases.
- Wiring for pressure sensor should avoid power source line and high voltage line. If use in the same circuit, noise may cause malfunction.

| SPECIFICATIONS | | MP30V-030-F2-QD (Vacuum) |
|---------------------------------|------------------------|--|
| Rated pressure range | | 0.0 ~ -101.3kPa |
| Setting pressure range | | 10.0 ~ -101.3kPa |
| Withstand pressure | | 300kPa |
| Fluid | | Filtered air, Non-corrosive/Non-flammable gases |
| Set pressure resolution | kPa | 0.1 |
| | MPa | — |
| | kgf/cm ² | 0.001 |
| | bar | 0.001 |
| | psi | 0.01 |
| | inHg | 0.1 |
| | mmHg | 1 |
| | mmH ₂ O | 0.1 |
| Power supply voltage | | 12 to 24V DC ±10%, Ripple (P-P) 10% or less |
| Current consumption | | ≦ 60mA |
| Switch output | | PNP: open collector outputs Max. load current: 100mA Max. supply voltage: 24V DC Residual voltage: ≦ 1V |
| 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 ½ digit LED display (Sampling rate: 5 times/1sec.) |
| Indicator accuracy | | ±2% F.S. ±1 digit (Ambient temperature: 25 ±3°C) |
| Indicator | | OUT1=Green |
| Analog output | | Output voltage: 1 to 5V ±2.5% F.S. (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 | 1000V AC in 1-min (between case and lead wire) |
| | Insulation resistance | 50MQ (at 500V DC, 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°C) at temp. Range of 0~50°C |
| Port size | | F2:NPT1/8", M5 |
| Lead wire | | Oil-resistance cable (0.15mm ²) |
| Weight | | Approx. 35g (with M8, 4Pin male connector) |

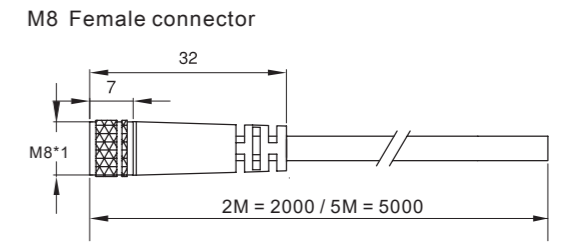
ORDERING INFORMATION

MP30V-030-F2-QD



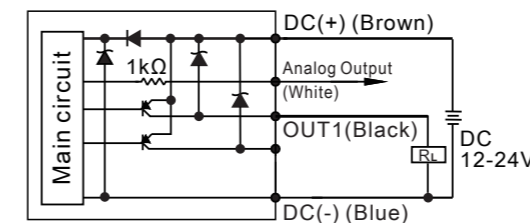
Optional Part
M84R-PVC-2M or M84R-PVC-5M: With M8, 4Pin female connector

OPTIONAL PART DIMENSION



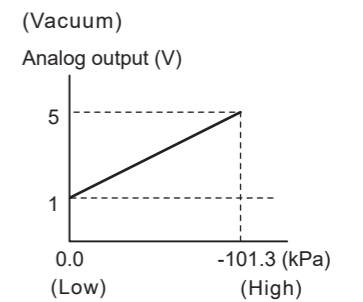
OUTPUT CIRCUIT WIRING DIAGRAMS

MP30V-030-F2-QD
PNP output & Analog output

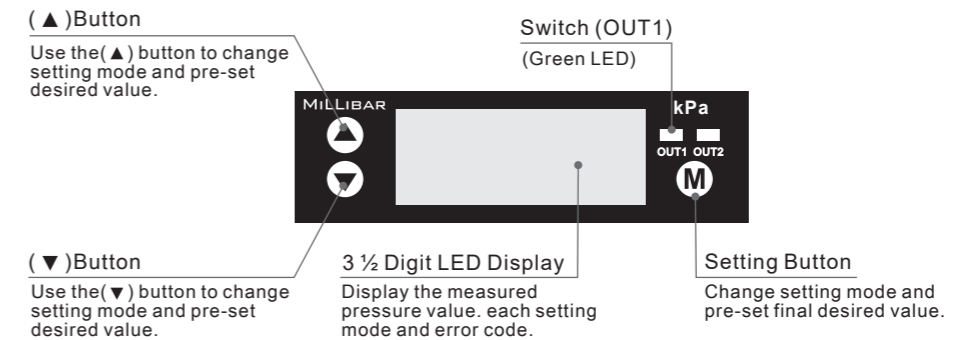


ANALOG OUTPUT

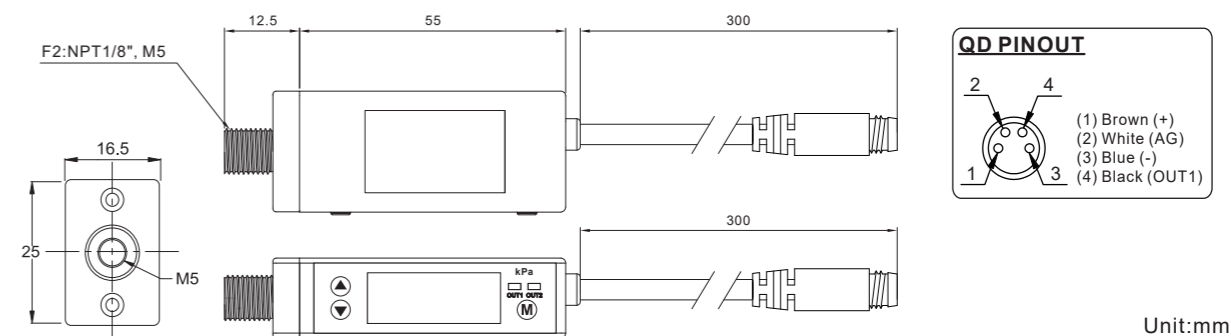
Analog output range 1 to 5V, proportional to the pressure range.



PANEL DESCRIPTION




DIMENSIONS



Unit:mm

CHANGE PRESSURE UNIT TAG

When the pressure setting is not kPa, please remove the pressure unit tag and place the selected tag on the indicated area of the faceplate to assure the pressure unit is not misemployed and that setting error does not occur.



| From | To | Pa | kPa | MPa | kgf/cm ² | mmHg | psi | bar | inHg | mmH ₂ O |
|-----------------------|----------|----------|-----------|-------------|---------------------|-------------|-----------|-----------|----------|--------------------|
| 1 Pa | 1 | 0.001 | 0.000001 | 0.000010197 | 0.00750062 | 0.000145038 | 0.00001 | 0.0002953 | 0.101968 | |
| 1 kPa | 1000.000 | 1 | 0.001000 | 0.010197 | 7.500616 | 0.145038 | 0.100000 | 0.2953 | 101.9689 | |
| 1 MPa | 1000000 | 1000 | 1 | 10.197 | 7500.616 | 145.038 | 10 | 295.2998 | 101968.9 | |
| 1 kgf/cm ² | 98066.5 | 98.0665 | 0.0980665 | 1 | 735.559 | 14.2233 | 0.980665 | 28.95979 | 10000.20 | |
| 1 mmHg | 133.32 | 0.13332 | 0.000133 | 0.0013595 | 1 | 0.019336 | 0.0013332 | 0.039370 | 13.5954 | |
| 1 psi | 6895 | 6.895 | 0.006895 | 0.07031 | 51.7157 | 1 | 0.06895 | 2.036074 | 703.07 | |
| 1 bar | 100000.0 | 100.0000 | 0.100000 | 1.01972 | 750.062 | 14.5038 | 1 | 29.52998 | 10196.89 | |
| 1 inHg | 3386.388 | 3.386388 | 0.003386 | 0.034530 | 25.40000 | 0.491141 | 0.033863 | 1 | 345.324 | |
| 1 mmH ₂ O | 9.80665 | 0.00980 | - | 0.000099 | 0.0735578 | 0.00142 | 0.000098 | 0.002895 | 1 | |

【Note :】 When using a unit mmH₂O, please multiply display value by 100.

SETTING STEPS



- Unit
- Output Mode
- Response Time
- Auto/Manual

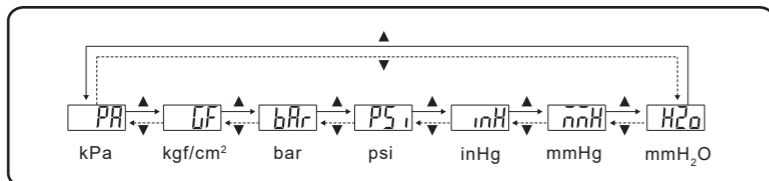
- P_1 or n_1
- P_2 or n_2
- P_3 or n_3
- P_4 or n_4

Setting zero point under atmospheric pressure

INITIAL SETTING MODE

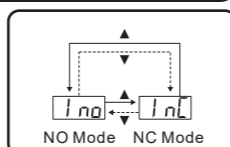
Measure mode ● Press (M) button for more than 3 seconds.

Unit setting ● Use the ▲ or ▼ button to set desired pressure unit.

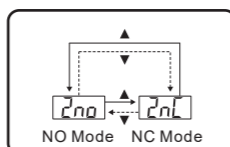


OUT1 mode setting ● Use the ▲ or ▼ button to set OUT1 mode.

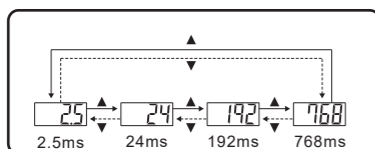
- Output type :
- NO: normal open mode
- NC: normal close mode



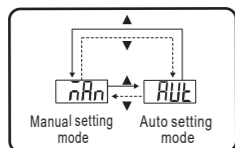
OUT2 mode setting ● Use the (M) button to skip OUT2 mode.
● MP30V-030-F2-QD does not contain OUT2 functions.



Response time setting ● Use the ▲ or ▼ button to select response time.



Pressure value setting : Auto/Manual ● Use the ▲ or ▼ button to select auto/manual setting.

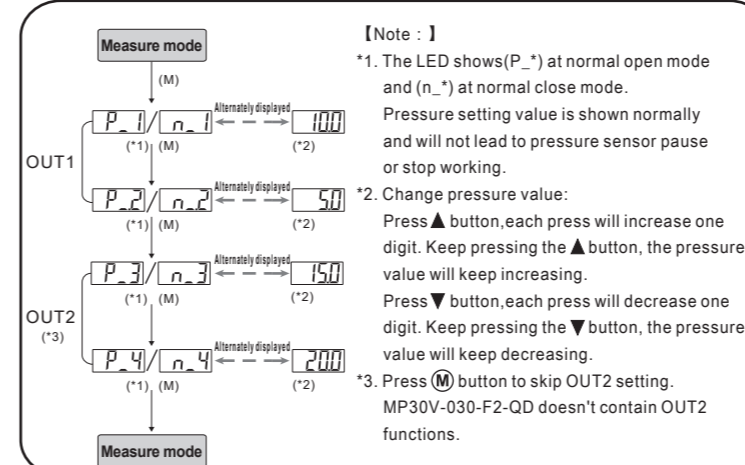


Measure mode

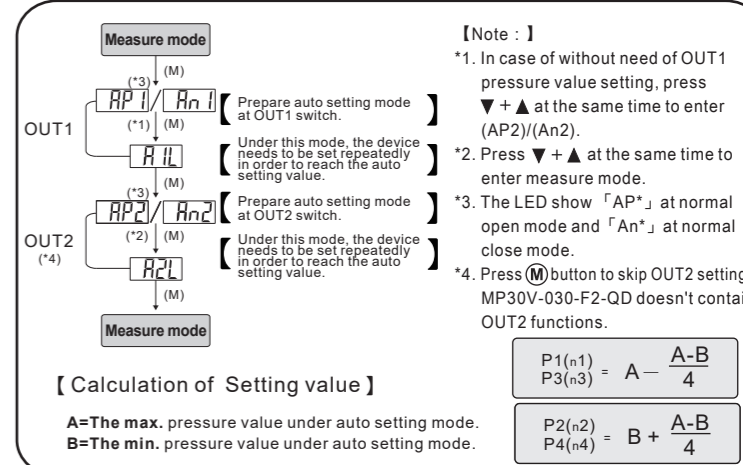
PRESSURE SETTING MODE

Select auto/manual setting mode during initial set-up.

Manual setting mode



Auto setting mode

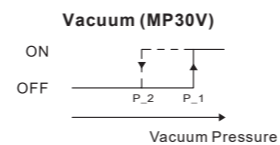


OUTPUT TYPE

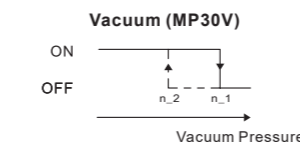
Hysteresis Mode : P1(n1)>P2(n2)

Output hysteresis value can be pre-set.

Normal open mode



Normal close mode

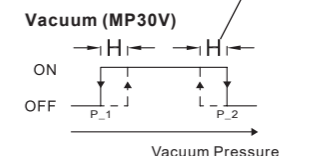


【Note :】 When hysteresis mode setting is within 2 digits, if the input and pre-set pressure is quite near, pressure sensor output might cause chattering.

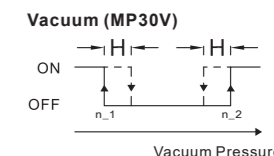
Window comparator mode : P1(n1)>P2(n2)

Within pressure setting range, pressure sensor output can be ON or OFF.

Normal open mode



Normal close mode



【Note :】 Hysteresis is fixed in 3 digits. Pressure value level setting : At least 6 digits.

ZERO POINT SETTING / THE MAX. & MIN. DISPLAY MODE

Zero point setting :

- Press the ▼ + ▲ button at the same time until the "00" is shown.
- Release the button to end zero setting.

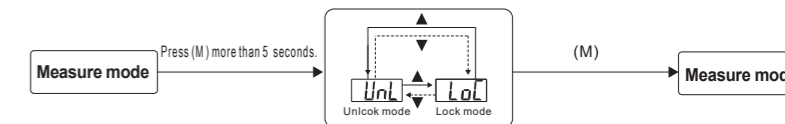
The Max. value display mode :

- Press ▲ button 2 seconds to enter the max. value mode, pressure sensor will detect the max. value and keep display.
- Press ▲ button 2 seconds to return to measure mode.

The Min. value display mode :

- Press ▼ button 2 seconds to enter the min. value mode, pressure sensor will detect the min. value and keep display.
- Press ▼ button 2 seconds to return to measure mode.

KEY LOCK/UNLOCK MODE



- Use ▼ or ▲ to select key lock/unlock mode.
- Key lock mode can prevent operation mistakes.

ERROR CODE INSTRUCTION

| Error Name | Error code | Error instruction | Troubleshooting |
|---------------------------|------------|---|---|
| Excess load current error | OUT1 Er1 | Excess load current of 100 mA | Turn power off and check the cause of overload current or lower the current load under 100mA, then restart. |
| Residual pressure error | Er3 | During zero reset, ambient pressure is over ±3% F.S. | Change input pressure to ambient pressure and perform zero reset again. |
| Applied pressure error | --- | The applied pressure is excess the upper limit of pressure setting. | Adjust the pressure within applied pressure range. |
| | --- | The applied pressure is excess the lower limit of pressure setting. | |
| System error | Er4 | Internal data error | Turn power off, and then restart. If error condition remains, please return to factory for inspection. |
| | Er6 | Internal system error | |
| | Er7 | Internal data error | |
| | Er8 | Internal system error | |