

## Features

- Low pressure measurable ( $\pm 1\text{kPa}$ ,  $\pm 2\text{kPa}$ ,  $\pm 5\text{kPa}$ )
- Volt level output
- Piggy-back style, pre-amplified and pre-compensated module
- Pre-calibration of offset voltage and span

## Part number for ordering

### PSM - 005KP G

Model  
PSM

Rated pressure(Pa)

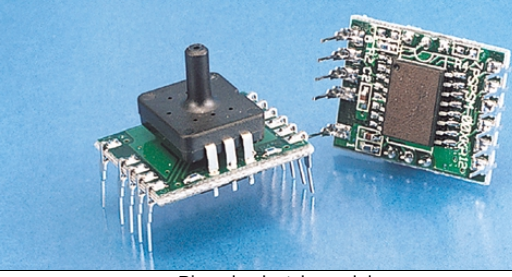
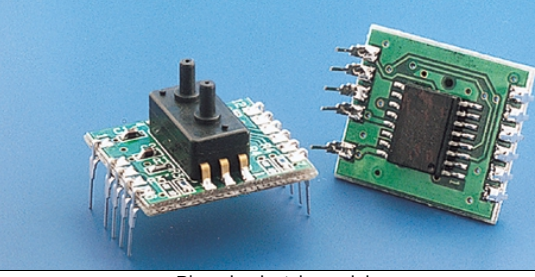
Pressure type

GW : Gauge(Bipolar pressure)

DW : Differential(Bipolar pressure)

G : Gauge(Positive pressure)

D : Differential(Positive pressure)

| Pressure type         | Gauge pressure<br>PSM-G                                                            | Differential pressure<br>PSM-D                                                      |
|-----------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Model                 |  |  |
| Package configuration | Piggy-back style module                                                            | Piggy-back style module                                                             |

| Measurable pressure range (kPa) | Part number for ordering |             |
|---------------------------------|--------------------------|-------------|
| -1~1                            | PSM-001KPGW              | PSM-001KPDW |
| -2~2                            | PSM-002KPGW              | PSM-002KPDW |
| -5~5                            | PSM-005KPGW              | PSM-005KPDW |
| 0~2                             | PSM-002KPG               | PSM-002KPD  |
| 0~5                             | PSM-005KPG               | PSM-005KPD  |
| 0~10                            | PSM-010KPG               | PSM-010KPD  |

## Specifications

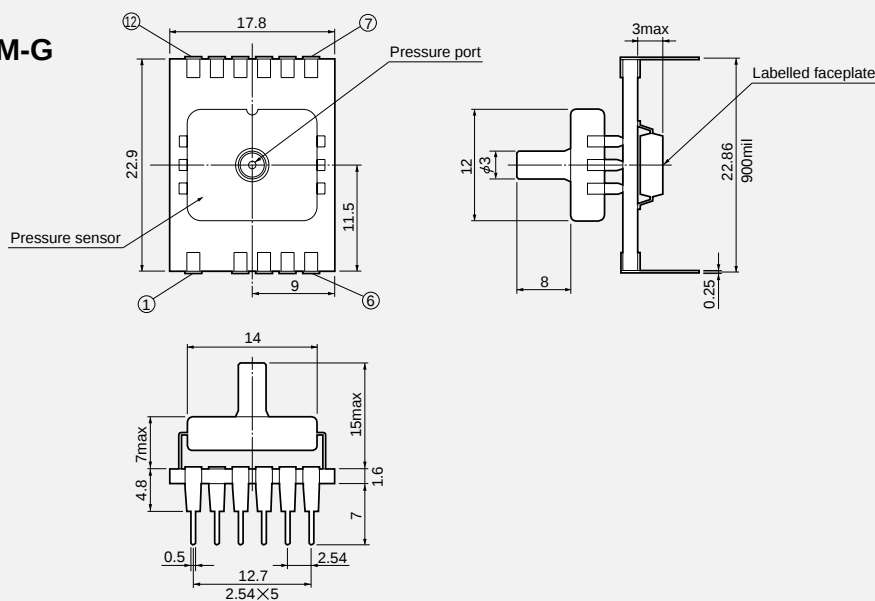
| Model/Rated pressure                                                                                     | 001KPGW<br>001KPDW          | 002KPGW<br>002KPDW | 005KPGW<br>005KPDW | 002KPG<br>002KPD      | 005KPG<br>005KPD | 010KPG<br>010KPD | Unit              |
|----------------------------------------------------------------------------------------------------------|-----------------------------|--------------------|--------------------|-----------------------|------------------|------------------|-------------------|
| Recommended operating conditions                                                                         |                             |                    |                    |                       |                  |                  |                   |
| Pressure type                                                                                            | Gauge pressure              |                    |                    | Differential pressure |                  |                  | —                 |
| Rated pressure                                                                                           | ±1                          | ±2                 | ±5                 | 2                     | 5                | 10               | kPa               |
|                                                                                                          | +10                         | +20                | +51                | 20                    | 51               | 102              | g/cm <sup>2</sup> |
| Measurable pressure range                                                                                | −1~1                        | −2~2               | −5~5               | 0~2                   | 0~5              | 0~10             | kPa               |
| Pressure media ※1                                                                                        | Non-corrosive gas only      |                    |                    |                       |                  |                  | —                 |
| Excitation voltage                                                                                       | 5±0.25                      |                    |                    |                       |                  |                  | VDC               |
| Absolute maximum rating                                                                                  |                             |                    |                    |                       |                  |                  |                   |
| Maximum load pressure                                                                                    | 27                          |                    |                    |                       |                  |                  | kPa               |
| Maximum excitation voltage                                                                               | 7                           |                    |                    |                       |                  |                  | VDC               |
| Operating temperature                                                                                    | −20~100                     |                    |                    |                       |                  |                  | ℃                 |
| Storage temperature                                                                                      | −40~120                     |                    |                    |                       |                  |                  | ℃                 |
| Operating humidity                                                                                       | 30~80 (No dew condensation) |                    |                    |                       |                  |                  | %RH               |
| Electric performances/characteristics (Excitation voltage Vcc=5.0V constant, Ambient temperature Ta=25℃) |                             |                    |                    |                       |                  |                  |                   |
| Current consumption                                                                                      | less than 5                 |                    |                    |                       |                  |                  | mA                |
| Mechanical response time                                                                                 | less than 2                 |                    |                    |                       |                  |                  | msec              |
| Output voltage※1,2                                                                                       | 0.5(−1kPa)                  | 0.5(−2kPa)         | 0.5(−5kPa)         | 0.5(0kPa)             | 0.5(0kPa)        | 0.5(0kPa)        | V                 |
|                                                                                                          | 4.5(+1kPa)                  | 4.5(+2kPa)         | 4.5(+5kPa)         | 4.5(+2kPa)            | 4.5(+5kPa)       | 4.5(+10kPa)      |                   |
| Full scale span voltage※2                                                                                | 4.0                         |                    |                    |                       |                  |                  | V                 |
| Offset voltage※1,2                                                                                       | 2.5±0.2                     | 2.5±0.12           | 2.5±0.08           | 2.5±0.2               | 2.5±0.12         | 2.5±0.08         | V                 |
| Full scale span voltage※1,2                                                                              | 4.5±0.2                     | 4.5±0.12           | 4.5±0.08           | 2.5±0.2               | 4.5±0.12         | 4.5±0.08         | V                 |
| Accuracy※2                                                                                               | +5.0                        | +3.0               | +2.0               | +5.0                  | +3.0             | +2.0             | %FS/0~50℃         |

Note ; ※1)Output refers to pressure at pressure port 2.

※2)Excluding input voltage error.

## Outline dimensions

### PSM-G

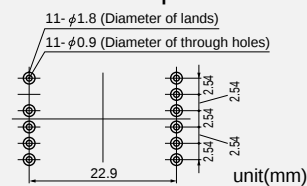


unit(mm)

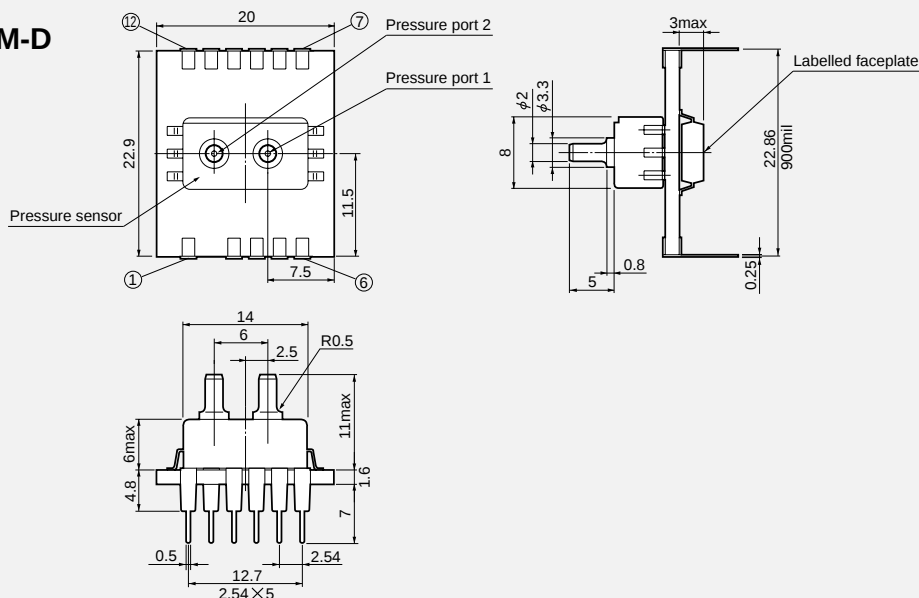
#### ELECTRICAL PIN CONNECTIONS

| PIN NO. | SYMBOL |
|---------|--------|
| ①       | Vcc    |
| ②       | NO PIN |
| ③       | Vout   |
| ④       | NC     |
| ⑤       | NC     |
| ⑥       | NC     |
| ⑦       | NC     |
| ⑧       | NC     |
| ⑨       | NC     |
| ⑩       | NC     |
| ⑪       | NC     |
| ⑫       | GND    |

#### Recommended footprint for PCB



### PSM-D

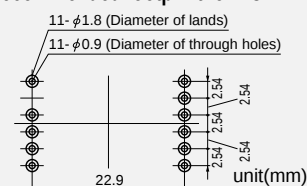


unit(mm)

#### ELECTRICAL PIN CONNECTIONS

| PIN NO. | SYMBOL |
|---------|--------|
| ①       | Vcc    |
| ②       | NO PIN |
| ③       | Vout   |
| ④       | NC     |
| ⑤       | NC     |
| ⑥       | NC     |
| ⑦       | NC     |
| ⑧       | NC     |
| ⑨       | NC     |
| ⑩       | NC     |
| ⑪       | NC     |
| ⑫       | GND    |

#### Recommended footprint for PCB



## Transfer Function

$$V_{out} = V_s \times (P \times \alpha + \beta) \pm (\text{Pressure Error} \times \text{Temperature Error Multiplier} \times \alpha \times V_s)$$

※Vs=5.0volts

※P=Input Pressure(kPa)

※Temperature Error Multiplier=1

| Model       | pressure range | $\alpha$ | $\beta$ | Pressure Error(kPa) |
|-------------|----------------|----------|---------|---------------------|
| 001KPGW(DW) | -1~1kPa        | 0.4      | 0.5     | 0.1                 |
| 002KPGW(DW) | -2~2kPa        | 0.2      | 0.5     | 0.12                |
| 005KPGW(DW) | -5~2kPa        | 0.08     | 0.5     | 0.2                 |
| 002KPG(D)   | 0~2kPa         | 0.4      | 0.1     | 0.1                 |
| 005KPG(D)   | 0~5kPa         | 0.16     | 0.1     | 0.15                |
| 010KPG(D)   | 0~10kPa        | 0.08     | 0.1     | 0.2                 |

Note ; Please read instruction "Notes" before using the sensor.

Fujikura reserves the right to change specifications without notice.

# Fujikura Ltd.

If you have any questions regarding technical issues or specifications, please contact us.

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