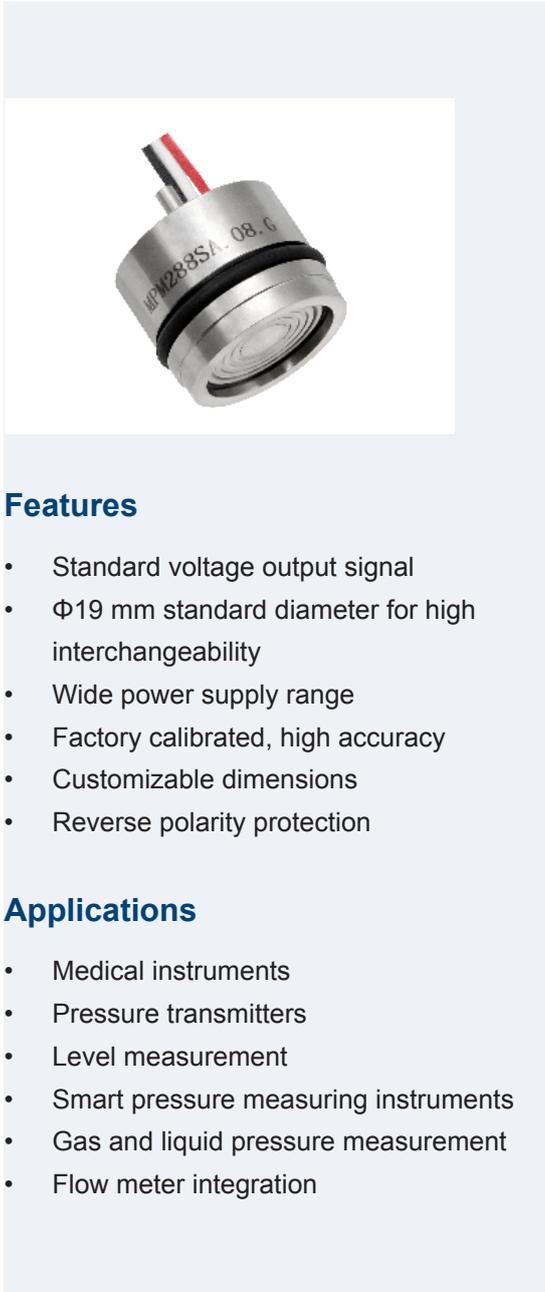


MPM288SA Pressure Sensor



Features

- Standard voltage output signal
- $\Phi 19$ mm standard diameter for high interchangeability
- Wide power supply range
- Factory calibrated, high accuracy
- Customizable dimensions
- Reverse polarity protection

Applications

- Medical instruments
- Pressure transmitters
- Level measurement
- Smart pressure measuring instruments
- Gas and liquid pressure measurement
- Flow meter integration

Introduction

MPM288SA Pressure Sensor converts applied pressure into a standard electrical signal. It integrates a diffusion-silicon sensing chip of 19 mm diameter with an ASIC-based signal conditioning circuit on a compact PCBA, enabling flexible welding or assembly with various pressure connections for use in different pressure instruments. The output options include a fixed three-wire voltage output and a ratiometric three-wire voltage output. Utilizing a dedicated pressure-sensor ASIC featuring dual 24-bit ADCs, the sensor delivers high signal resolution and excellent repeatability. Each unit undergoes high- and low-temperature aging and wide-range temperature compensation to ensure long-term stability and reliability. Its outline construction, mounting dimensions, and sealing configuration are fully compatible with major international counterparts and other mainstream models of the MICROSENSOR, ensuring good interchangeability.

Electrical Performance

- Range: -100kPa ... 0kPa ~ 35kPa...70MPa
- Pressure type: Gauge, Absolute, Sealed gauge
- Power supply: Refer to "Output Signals"
- Accuracy ¹⁾: $\pm 0.25\%FS$ ($\pm 0.5\%FS@FS=35kPa$)
- Insulation resistance: 100M Ω @50V DC
- Dielectric strength: 50Hz, 500VAC
- Compensation temperature ²⁾: 0°C ~ 70°C
- Operation temperature: -40°C ~ 125°C
- Storage temperature: -40°C ~ 125°C
- Vibration: 10g, 20Hz ~ 2000Hz
- Shock: 100g, 11ms
- Overpressure: 1.5 \times FS (Maximum $\leq 110MPa$)
- Burst pressure: 3.0 \times FS (Maximum $\leq 140MPa$)

Notes

1) The test standard is based on JJG 860;

2) This is the compensation temperature for standard products. Please feel free to consult with the MICROSENSOR for specific temperature requirements.

Construction Performance

- Diaphragm: Stainless steel 316L
- Housing: Stainless steel 316L
- Vent tube: Stainless steel 304
- Cable: Silicone wire
- O-ring: FKM
- Net weight: Approx. 30g
- Oil-filled: Silicone oil

Reference Conditions

- Medium temperature: $(35 \pm 1)^\circ\text{C}$
- Ambient temperature: $(35 \pm 1)^\circ\text{C}$
- Relative humidity: $\leq 80\% \text{ RH}$
- Ambient pressure: $(86 \sim 106)\text{kPa}$
- Power supply: 24V DC(8V~28V DC), 5V DC(5V \pm 0.3V DC), 3.3V DC (3.3V \pm 0.3V DC)
- Load resistance: $\geq 10 \text{ k}\Omega$ (voltage output)

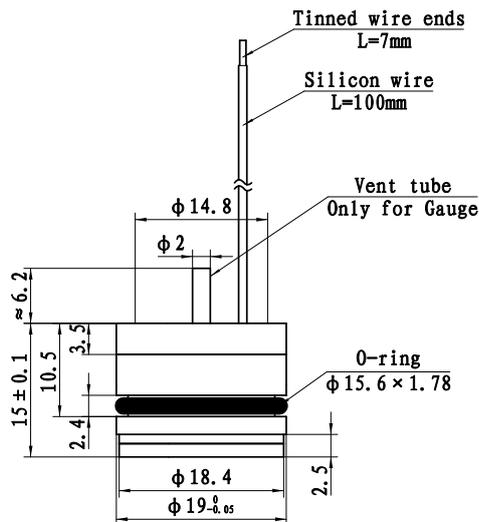
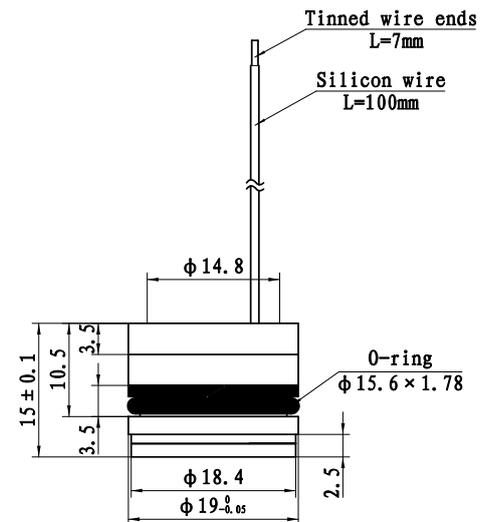
Outline Signals

Output signal	Supply voltage	Output configuration	Load resistance
4mA~20mA DC	8V~28V DC (Type: 24V DC)	2-wire	$\leq (U-8)/0.02(\Omega)$
0.5V~4.5V DC		3-wire	$\geq 10\text{k}\Omega$
0.5V~4.5V DC	5V \pm 0.3V DC		
0.5V~2.5V DC	3.3V \pm 0.3V DC		

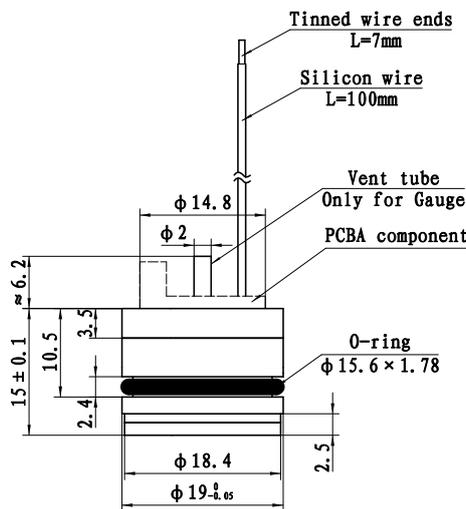
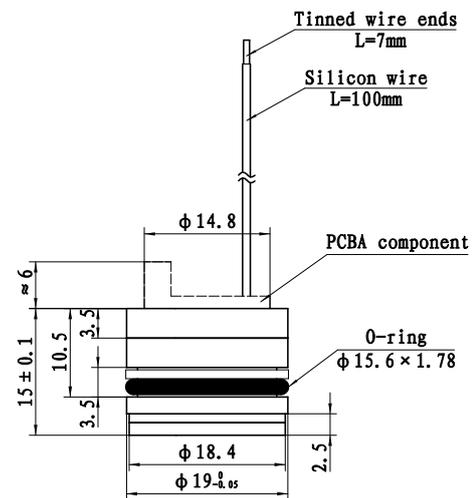
Outline Construction

Unit: mm

Voltage output

 $P < 3.5 \text{ MPa}$  $P > 3.5 \text{ MPa}$

Current output

 $P < 3.5 \text{ MPa}$  $P > 3.5 \text{ MPa}$ The recommended installation dimension is: $\Phi 19^{+0.05}_{+0.02}$ mm, $L \geq 15$ mm

Electrical connection

Wire color	2-wire	3-wire
Red	+V	+V
White	/	+OUT
Black	GND	GND

Order Guide

MPM288SA-02-A-F-V1-E-2

Range code	Pressure range	Ref.
0A	0kPa~35kPa	G.A
02	0kPa~70kPa	G.A
03	0kPa~100kPa	G.A
07	0kPa~200kPa	G.A
08	0kPa~350kPa	G.A
09	0kPa~700kPa	G.A
10	0MPa~1MPa	G.A
12	0MPa~2MPa	G.A
13	0MPa~3.5MPa	G.A.S
14	0MPa~7MPa	A.S
15	0MPa~10MPa	A.S
17	0MPa~20MPa	A.S
18	0MPa~35MPa	A.S
19	0MPa~70MPa	A.S

Code	Pressure type
G	Gauge
A	Absolute
S	Sealed gauge

Code	Electrical connection
2	100mm silicone wires

Code	Output signals
E	4mA~20mA DC
W	0.5V~2.5V DC
K1	0.5V~4.5V DC
K3	0.5V~4.5V DC (Ratiometric, supply voltage: 5.0V)

Code	Supply voltage
V1	24V DC
V6	5.0V DC
V7	3.3V DC

Code	Sealing
F	FKM O-ring

Notes

1. The default unit of the product is kPa. 1kPa=0.01bar.
2. The listed pressure ranges are standard for this product. For special ranges (including vacuum types), please contact us for consultation.
3. If a locking ring is used to secure the pressure sensor, the inner diameter of the ring shall not be less than $\Phi 15$ mm.
4. It's recommended to use a "suspended" construction when assembling the pressure sensor to avoid applying direct pressure to its end face during sealing, preventing any interference with the sensor's stability.
5. The standard O-ring (FKM) of the pressure sensor is rated for $-20^{\circ}\text{C} \sim 250^{\circ}\text{C}$. For operating temperatures below -20°C or use in harsh conditions, please contact the MICROSENSOR.