

New

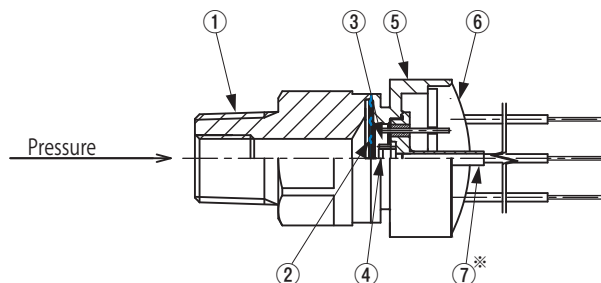
# Ultra-miniature pressure sensors P-7100



## FEATURES

- Suitable for installing inside the narrow space of the equipment thanks to its small size and light weight outline dimensions  $\phi 17 \times 18.7 \text{mm}$ , Net weight: Approx 19 g (M5 type)
- High reliability (SUS316L diaphragm, oil-filled) by using double diaphragm structure
- Supply voltage and analog output is  $5 \pm 0.5 \text{V}$  and the 0.5
- High accuracy by using a digital compensation circuit employing the COB (chip on board) mounting
- Variety pressure range: 0 ~ 100kPa, -100 ~ 100kPa, 0 ~ 1MPa, 0 ~ 133.3kPa abs

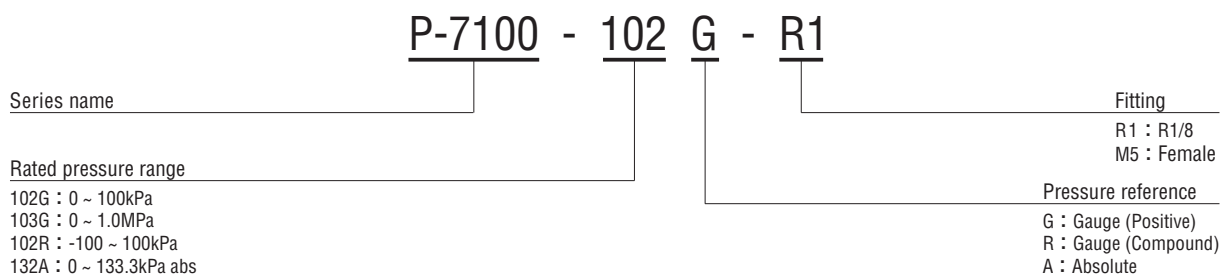
## INTERNAL STRUCTURE



Part name	Material
① Fitting	SUS304
② Stainless steel diaphragm	SUS316L
③ Sealed liquid	Silicone oil
④ Sensor chip	Silicon
⑤ Housing	SUS 304
⑥ Resin compound	Epoxy resin
⑦ Vent hole	Iron + gold-plated

※ ⑦ is applicable to gauge type only.

## MODEL NUMBER DESIGNATION



## LIST OF MODEL NUMBERS

Fitting	Rated pressure range			
	102G	102R	103G	132A
R1/8	P-7100-102G-R1	P-7100-102R-R1	P-7100-103G-R1	P-7100-132A-R1
M5	P-7100-102G-M5	P-7100-102R-M5	P-7100-103G-M5	P-7100-132A-M5

※ Verify the above model numbers when placing orders.

# P-7100

## PRESSURE TRANSDUCERS

### STANDARD SPECIFICATIONS

Item		Model number	P-7100				
			102G	103G	102R	132A	
General specifications	Pressure reference		Gauge			Absolute	
	Rated pressure range		0 ~ 100kPa	0 ~ 1.0MPa	-100 ~ 100kPa	0 ~ 133.3kPa abs	
	Maximum pressure		200kPa	2.0MPa	200kPa	200kPa abs	
	Break-down pressure		300kPa	3.0MPa	300kPa	300kPa abs	
	Operating temp. range	°C	- 20 ~ 70				
	Compensated temp. range	°C	0 ~ 50				
	Operating humidity range	%RH	35 ~ 85 (No condensation)				
	Storage temp. range	°C	- 20 ~ 80 (Atmospheric pressure, humidity 65 %RH maximum)				
	Media		Corrosive gases/liquids compatible with SUS316L and SUS304				
	Insulation resistance	MΩ minimum	100 (500V DC)				
	Dielectric strength		500V AC 60 s (Leakage current 1mA maximum)				
	Sealed liquid		Silicone oil				
	Pressure port		R1/8, M5 (SUS304)				
	Net weight	g	R1 : Approx.22, M5 : Approx.19				
Voltage	Operating voltage	V DC	5±0.5				
	Current consumption	mA Maximum	3				
Analog output	Output voltage ※	V	0.5 ~ 4.5				
	Output limit		16.5mV ~ 95% Vopr				
	Zero voltage ※	V	0.5±0.04		2.5±0.04	0.5±0.1	
	Span voltage ※	V	4.0±0.04			4.0±0.1	
	Output current	mA Maximum	1 (Load resistance 5kΩ minimum)				
	Linearity / Hysteresis	%F.S.	±0.5				
	Thermal error (Reference temp.25°C)	Zero	%F.S./°C	±0.05			±0.06
		Span	%F.S./°C	±0.05			±0.06
	Response time	ms	Approx.2				
Gravitational (From horizontal position to vertical position)	%F.S.	±0.3	±0.05	±0.3	±0.3		

※Output voltage is proportional to the operating voltage.(ratiometric output) The resolving power of the analog output is 11 Bits (about 0.002V/0.05%F.S).

### ENVIRONMENTAL CHARACTERISTICS

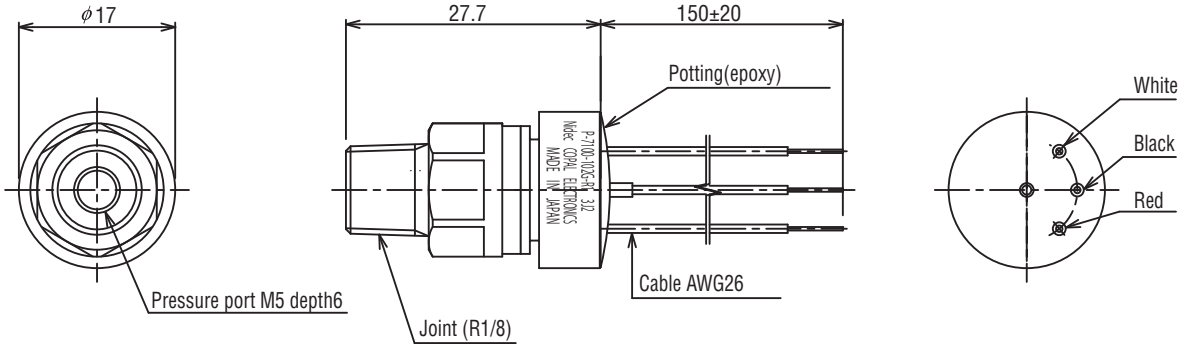
Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s <sup>2</sup> , 3 directions for 2 hours each	Analog output (Vzero, Vspan) ± 1 %F.S. maximum each after test
Shock	490 m/s <sup>2</sup> , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 <sup>6</sup> cycles	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

# P-7100 PRESSURE TRANSDUCERS

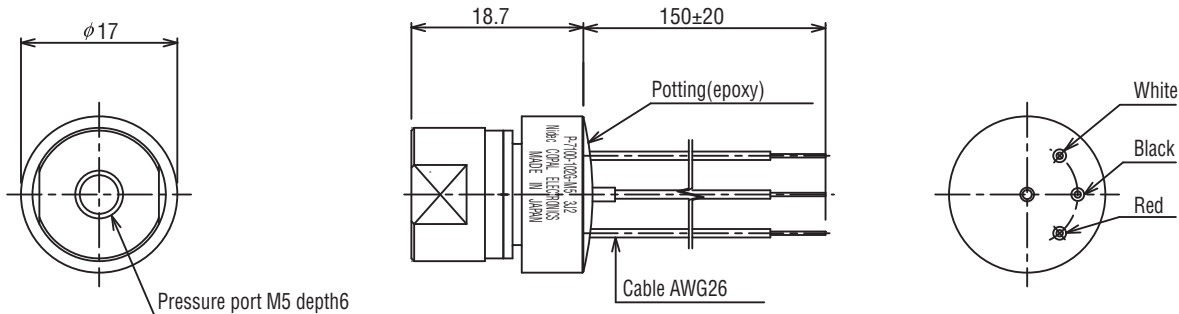
## OUTLINE DIMENSIONS

Unless otherwise specified, tolerance : ± 0.5 (Unit: mm)

### ● P-7100-102G-R1



### ● P-7100-102G-M5



Wire color	Connection
Red	Power ⊕
White	Output
Black	Common ⊖

## INTERNAL ELECTRICAL SCHEMATICS

