

New

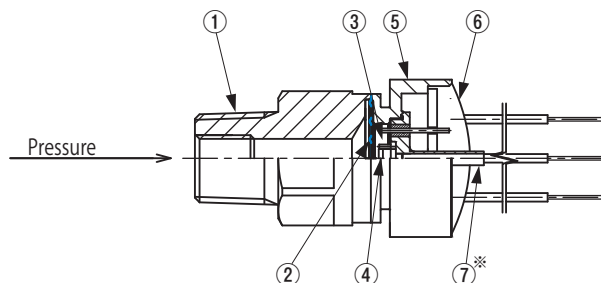
Ultra-miniature pressure sensors P-7100



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 ~ 4.5V (ratiometric output)
- 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

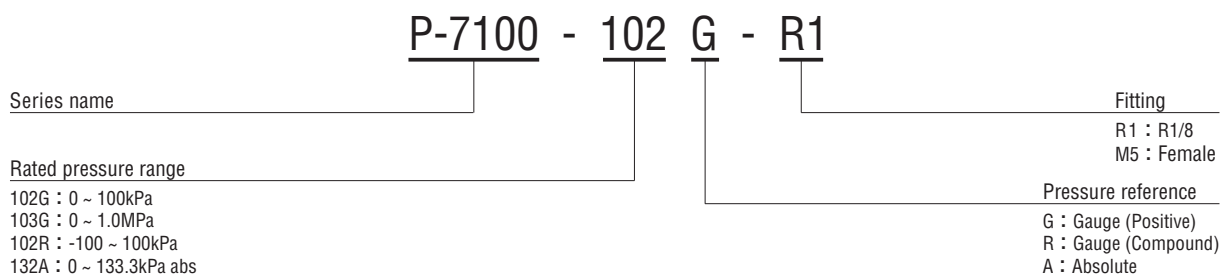
INTERNAL STRUCTURE



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 ※		0.5±0.04		2.5±0.04 0.5±0.1	
	Span voltage ※		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

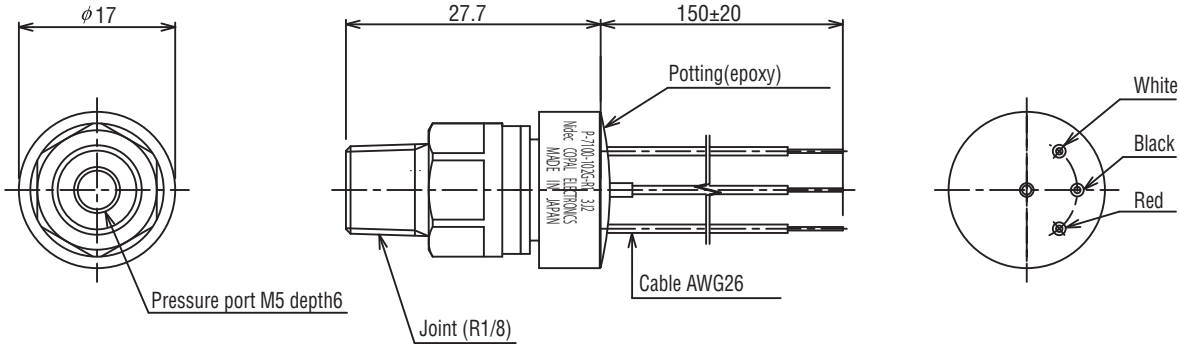
Test item	Test conditions	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each	Analog output (Vzero, Vspan) ± 1 %F.S. maximum each after test
Shock	490 m/s ² , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 ⁶ cycles	
Moisture resistance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

P-7100 PRESSURE TRANSDUCERS

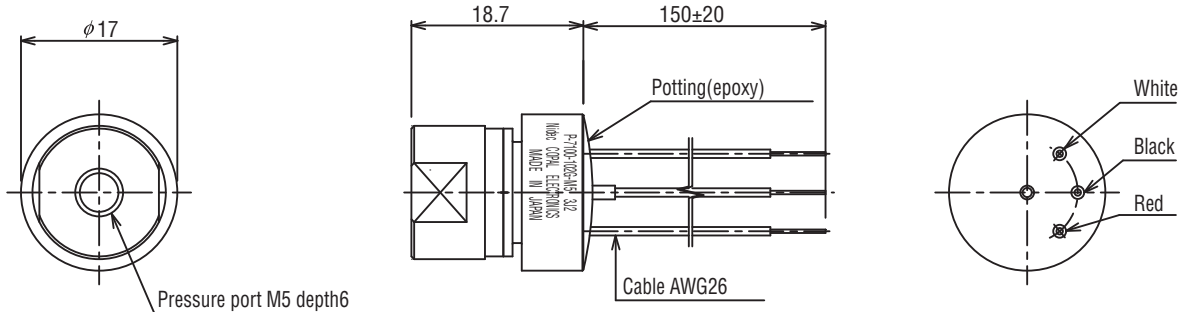
OUTLINE DIMENSIONS

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

