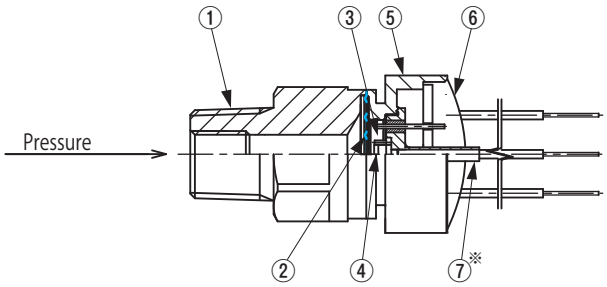
PRESSURE TRANSDUCERS WITH AMP. P-7100

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.

FEATURES

- Suitable for installing inside the narrow space of the equipment thanks to its small size and light weight outline dimensions φ17×18.7mm, 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±0.5V 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

MODEL NUMBER DESIGNATION

P-7100 - 102 G - R1

Series name

Rated pressure range
102G：0 ~ 100 kPa
103G：0 ~ 1.0 MPa
102R：-100 ~ 100 kPa
132A：0 ~ 133.3 kPa abs

Pressure reference
G：Gauge (Positive)
R：Gauge (Compound)
A：Absolute

Fitting
R1：R1/8
M5：M5 Female

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 WITH AMP.

STANDARD SPECIFICATIONS

Item \ Model number			P-7100			
			102G	103G	102R	132A
General specifications	Pressure reference		Gauge			Absolute
	Rated pressure range		0 ~ 100 kPa	0 ~ 1.0 MPa	-100 ~ 100 kPa	0 ~ 133.3 kPa abs
	Maximum pressure		200 kPa	2.0 MPa	200 kPa	200 kPa abs
	Break-down pressure		300 kPa	3.0 MPa	300 kPa	300 kPa 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（500VDC）			
	Dielectric strength		500 VAC 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	VDC	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
	Thermal error (Reference temp.25°C) 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/s², 3 directions for 2 hours each	Analog output (Vzero, Vspan) ± 1 %F.S. maximum each after test
Shock	490 m/s², 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

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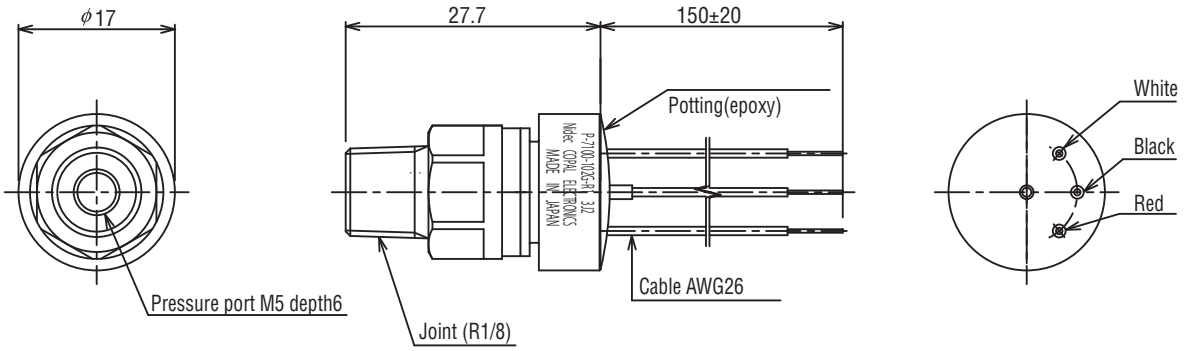
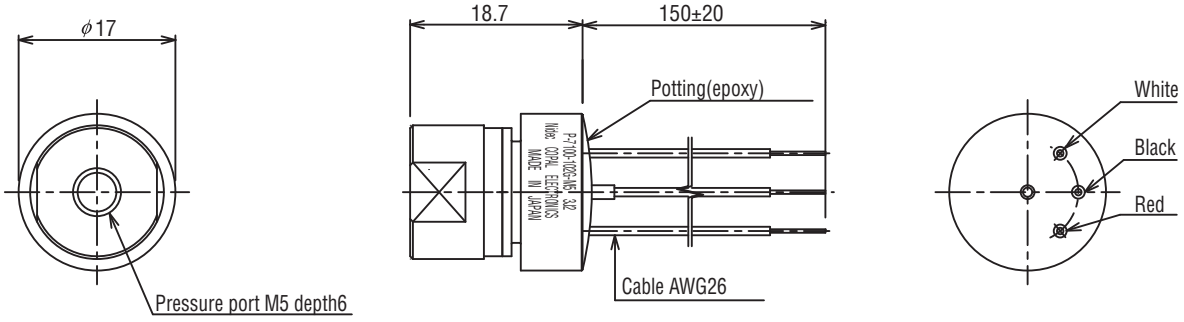
OUTLINE DIMENSIONS

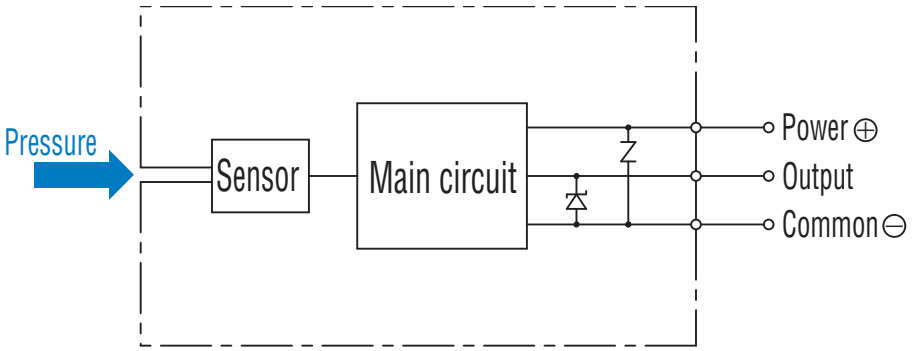
Unless otherwise specified, tolerance : ± 0.5 (Unit: mm)

P-7100-102G-R1



P-7100-102G-M5



Wire color	Connection
Red	Power ⊕
White	Output
Black	Common

INTERNAL ELECTRICAL SCHEMATICS