

PRESSURE TRANSDUCERS

P-8300



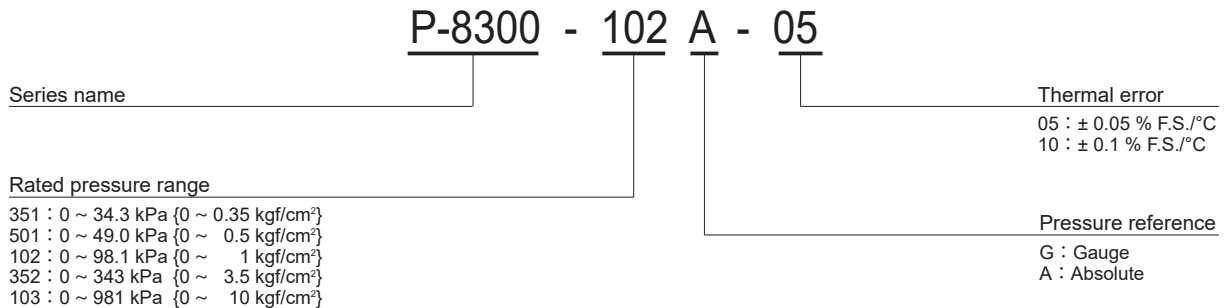
FEATURES

- Double diaphragm structure
- Two pressure references to choose from Gauge and Absolute
- Built-in temperature compensation function (0 ~ 50 °C)

INTERNAL STRUCTURE

Part name	Material
① Sealed liquid	Silicone oil
② Sensor chip	Silicone
③ Stainless steel diaphragm	SUS 316L
④ Compensation resistor board	Ceramic
⑤ Vent hole (Gauge type only)	Iron+gold-plated
⑥ Pressure port	SUS 316L
⑦ Terminal pin	Copper+gold-plated

MODEL NUMBER DESIGNATION



LIST OF MODEL NUMBERS

Pressure reference	Gauge				Absolute	
	kPa {kgf/cm ² } Rated pressure range	0 ~ 49.0 {0 ~ 0.5}	0 ~ 98.1 {0 ~ 1}	0 ~ 343 {0 ~ 3.5}	0 ~ 981 {0 ~ 10}	0 ~ 34.3 {0 ~ 0.35}
± 0.05 % F.S./°C	P-8300-501G-05	P-8300-102G-05	P-8300-352G-05	P-8300-103G-05	P-8300-351A-05	P-8300-102A-05
± 0.1 % F.S./°C	P-8300-501G-10	P-8300-102G-10	P-8300-352G-10	P-8300-103G-10	P-8300-351A-10	P-8300-102A-10

※ Verify the above model numbers when placing orders.

P-8300

PRESSURE TRANSDUCERS

STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25±5 °C and excitation current of 1.5 mA DC.

Item		Model number	P-8300						
			501G	102G	352G	103G	351A	102A	
General specifications	Pressure reference		Gauge				Absolute		
	Rated pressure range	kPa {kgf/cm ² }	49.0 {0.5}	98.1 {1}	343 {3.5}	981 {10}	34.3 {0.35} (abs)	98.1 {1} (abs)	
	Maximum pressure	kPa {kgf/cm ² }	98.1 {1}	196 {2}	686 {7}	1961 {20}	103 {1.05} (abs)	196 {2} (abs)	
	Break-down pressure	kPa {kgf/cm ² }	147 {1.5}	294 {3}	1030 {10.5}	2942 {30}	147 {1.5} (abs)	294 {3} (abs)	
	Operating temp. range	°C	-20 ~ 70						
	Compensated temp. range	°C	0 ~ 50						
	Operating humidity	%RH	35 ~ 85 (No condensation)						
	Storage temp.	°C	-20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum)						
	Bridge resistance	Ω	4700 ± 30 %						
	Pressure medium		Corrosive gases/liquids compatible with SUS316L						
	Insulation resistance	MΩ minimum	100 (500 VDC)						
	Dielectric strength		500 VAC, 60 s (Leakage current 1 mA maximum)						
	Sealed liquid		Silicone oil						
	Net weight	g	Approx. 20						
Power	Excitation current	mA DC	1.5 (Constant current)						
Analog output	Offset voltage	mV	± 5						
	Span voltage	mV	100 ± 50						
	Linearity/Hysteresis	%F.S.	± 0.3			± 0.5			
	Thermal error (Reference temp.: 25 °C)	ZERO	%F.S./°C	± 0.05/0.10					
		SPAN	%F.S./°C	± 0.05/0.10					
	Response	ms	Approx. 2						
Gravitational effect (From vertical position to horizontal position)	%F.S. max.	Approx. 0.5	Approx. 0.3	Approx. 0.1	Approx. 0.05	Approx. 0.5	Approx. 0.3		

ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each	Offset voltage/Span voltage: ±1 %F.S. maximum each
Shock	981 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-8300 series can be operated at the vacuum pressure.

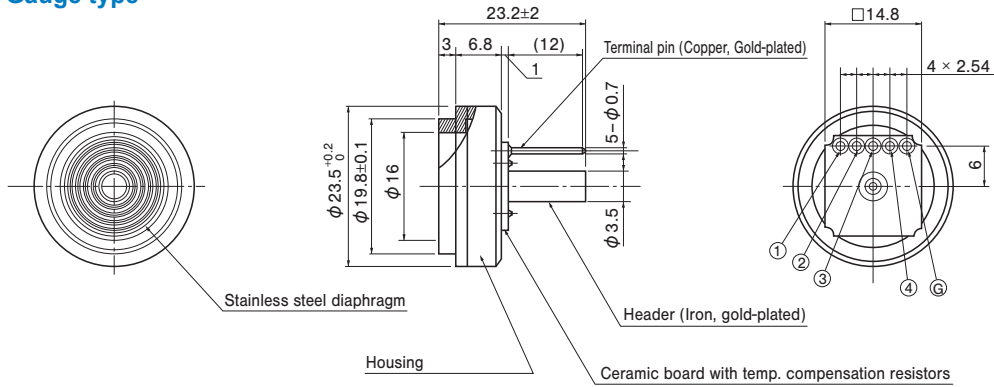
P-8300

PRESSURE TRANSDUCERS

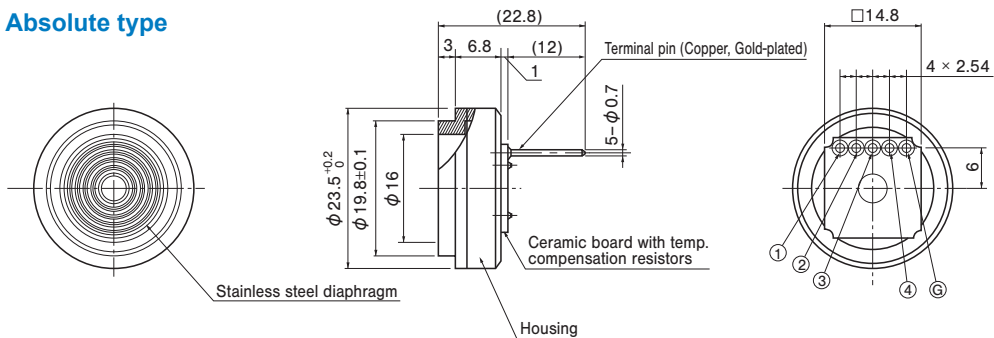
OUTLINE DIMENSIONS

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

P-8300 Gauge type



P-8300 Absolute type



P-8300

PIN	CONNECTION
1	Output ⊕
2	Output ⊖
3	Input ⊖
4	Input ⊕
G	Housing

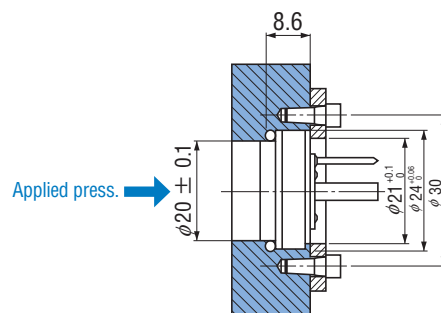
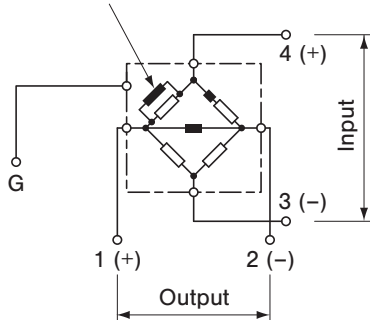
⚠ Extra care should be taken with the diaphragm part. Do not touch the diaphragm directly to avoid damaging the diaphragm.

INTERNAL ELECTRICAL SCHEMATICS

INSTALLATION EXAMPLES

(Unit: mm)

Thick film resistors for temp. compensation



- An "O" ring P20 (conforms to JIS B 2401 Material : Fluoro-rubber) is provided as accessory. Make the mounting bore diameters $\phi 24^{+0.06}_0$ and $\phi 20 \pm 0.1$, and the surface-roughness as 6.3 S ($\nabla \nabla \nabla$).