

PRESSURE TRANSDUCERS WITH AMP.

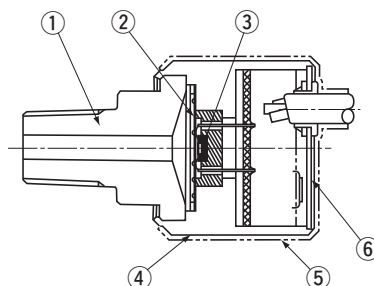
PA-870/PA-878



FEATURES

- High corrosion resistance by Hastelloy®** diaphragm
- SUS 316 welded stainless steel joint
- Built-in amplifier circuit
- Voltage or current output mode

INTERNAL STRUCTURE PA-870/PA-878



Part name		Material
①	Fitting	SUS 316
②	Stainless steel diaphragm	Hastelloy® C-22
③	Sensor chip	Silicone
④	Housing	SUS 316
⑤	Drip-proof cover	Silicone rubber
⑥	Back cover	SUS 303

MODEL NUMBER DESIGNATION

Series name		PA-870 - 203 P - B R2	Fitting	
Rated pressure range			R2 : R 1/4	
PA-870 : (Voltage output)		203 : 0 ~ 2 MPa	Drip-proof cover	
PA-878 : (Current output)		353 : 0 ~ 3.5 MPa		
		503 : 0 ~ 5 MPa	B : Non-provided H : Provided	
Pressure unit		P : Pa pressure unit		

LIST OF MODEL NUMBERS

Output	Pressure reference		Gauge		
	Drip-proof cover	Rated pressure range	0 ~ 2	0 ~ 3.5	0 ~ 5
Voltage output	Non-provided		PA-870-203P-B-R2	PA-870-353P-B-R2	PA-870-503P-B-R2
	Provided		PA-870-203P-H-R2	PA-870-353P-H-R2	PA-870-503P-H-R2
Current output	Non-provided		PA-878-203P-B-R2	PA-878-353P-B-R2	PA-878-503P-B-R2
	Provided		PA-878-203P-H-R2	PA-878-353P-H-R2	PA-878-503P-H-R2

※ Verify the above model numbers when placing orders.

※ **Hastelloy®** is a resistered trade name of Haynes International Inc.

PA-870/PA-878

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STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25±5 °C and excitation voltage of 12 V DC.

Item		Model number	PA-870			PA-878		
			203P	353P	503P	203P	353P	503P
General specifications	Pressure reference		Gauge ※ 1					
	Rated pressure range	MPa	2	3.5	5	2	3.5	5
	Maximum pressure	MPa	4	7	10	4	7	10
	Operating temp. range	°C	- 10 ~ 75					
	Compensated temp. range	°C	0 ~ 50					
	Operating humidity	%RH	35 ~ 85 (No condensation)					
	Storage temp.	°C	- 20 ~ 90 (Atmospheric pressure, humidity 65 %RH maximum)					
	Pressure medium		Corrosive gases/liquids compatible with SUS 316 and Hastelloy® C-22					
	Insulation resistance	MΩ minimum	100 (500 V DC)					
	Dielectric strength		350 V AC, 60 s (Leakage current 0.5 mA maximum)					
	Pressure port		R 1/4					
	Net weight	g	Approx. 190					
	Drip-proof structure		Without drip-proof cover : IP54, With drip-proof cover : IP65					
	Power	Supply voltage	V DC	10.8 ~ 26.4				
Consumption current		maximum	10 mA			—		
Analog output	Output voltage/current	DC	1 ~ 5 V			4 ~ 20 mA		
	Zero voltage/current		1 ± 0.05 V			4 ± 0.1 mA		
	Span voltage/current		4 ± 0.05 V			16 ± 0.1 mA		
	Linearity/Hysteresis	%F.S.	± 0.5					
	Thermal error	ZERO %F.S./°C	± 0.05					
		SPAN %F.S./°C	± 0.05					
	Load resistance		10 kΩ minimum			500 Ω maximum ※2 (At power voltage 24 V)		
	Response	ms maximum	2					

※ 1 : The transducer measures gauge pressure using an absolute pressure sensing element.

※ 2 : Maximum load resistance $RL(\text{Max.}) = (V_{opr}-10.8)/0.026$ V_{opr} = power supply voltage to be used.

PA-870/PA-878

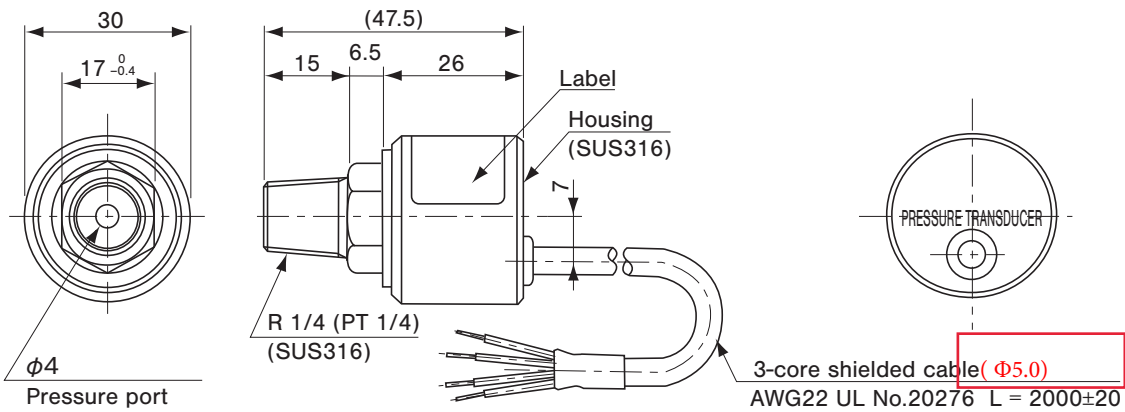
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ENVIRONMENTAL CHARACTERISTICS

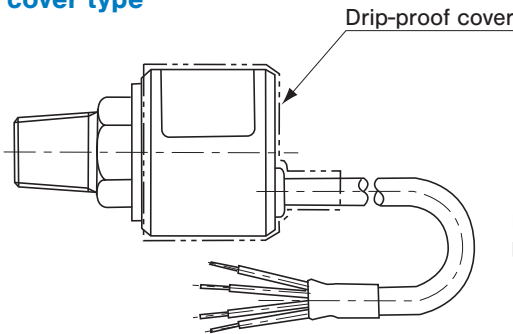
Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s², 3 directions for 2 hours each	Zero voltage/current, Span voltage/current: ± 3 %F.S. maximum each
Shock	490 m/s² 3 directions for 3 times each	
Pressure cycling	10 ⁶ cycles 0 ~ Rated pressure	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

OUTLINE DIMENSIONS

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



Drip-proof cover type



PA-870

Wire color	Connection
Red	Power ⊕
Black	Common
White	Output
Gray	Shield

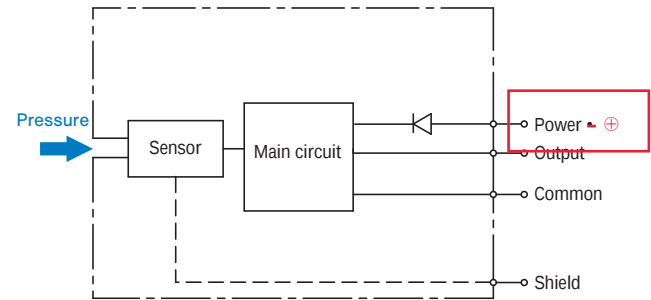
PA-878

Wire color	Connection
Red	Power ⊕
Black	N.C.
White	Output
Gray	Shield

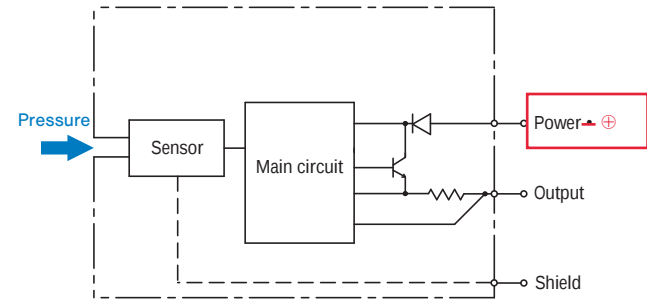
Please make sure that the drip-proof cover is properly placed over the main body and the cable.

INTERNAL ELECTRICAL SCHEMATICS

PA-870



PA-878



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Nidec:

[PA-878-203P-B-R2](#) [PA-878-203P-H-R2](#) [PA-878-353P-B-R2](#) [PA-878-353P-H-R2](#) [PA-878-503P-B-R2](#) [PA-878-503P-H-R2](#)