

PRESSURE TRANSDUCERS WITH AMP.

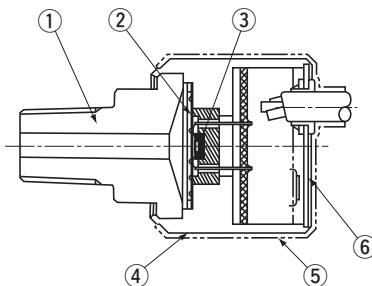
PA-870/PA-878



FEATURES

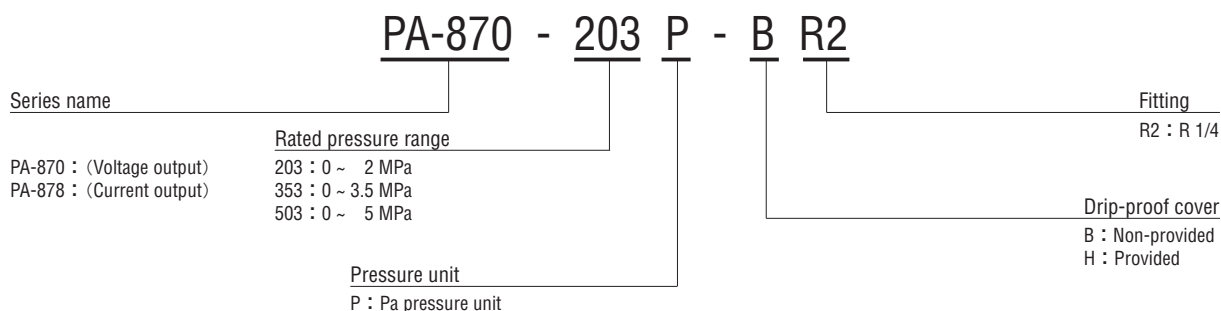
- High corrosion resistance by Hastelloy®* diaphragm
- SUS 316 welded stainless steel joint
- Built-in amplifier circuit
- Voltage or current output mode

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



LIST OF MODEL NUMBERS

| Output | Pressure reference | | Gauge | | |
|----------------|--------------------|-----------------------------|------------------|------------------|------------------|
| | Drip-proof cover | MPa 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 registered trade name of Haynes International Inc.

PA-870/PA-878

PRESSURE TRANSDUCERS WITH AMP.

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 (At power voltage 24 V) | | |
| Response | ms maximum | 2 | | | | | | |

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

PA-870/PA-878

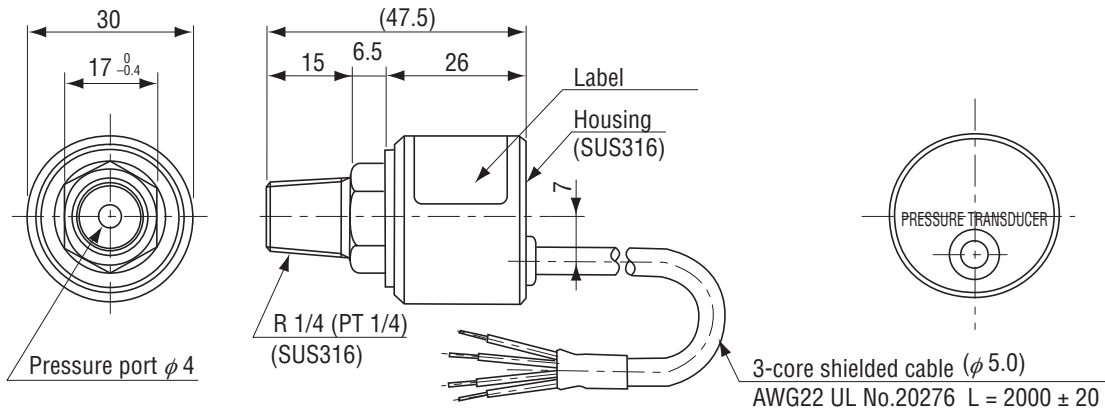
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ENVIRONMENTAL CHARACTERISTICS

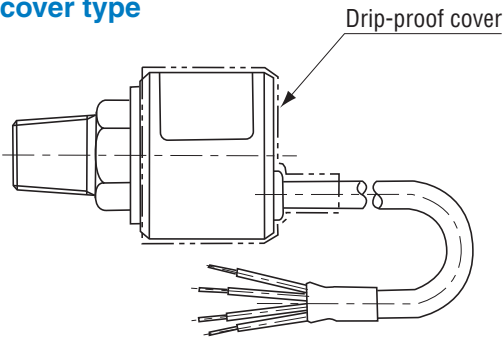
| Test item | Test conditions (At 25 ± 5 °C) | Permissible change |
|---------------------|--|---|
| Vibration | 10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each | Zero voltage/current, Span voltage/current: ± 3 %F.S. maximum each |
| Shock | 490 m/s ² 3 directions for 3 times each | |
| 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 |

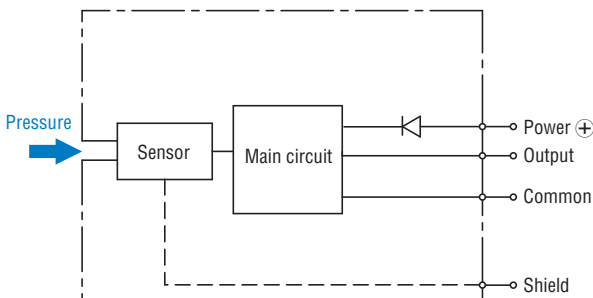
PA-878

| 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

