

PRESSURE TRANSDUCERS WITH AMP.

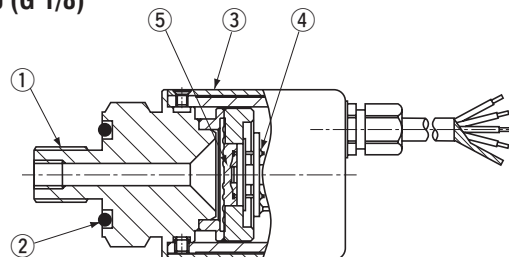
PA-830



FEATURES

- High corrosion resistance by double diaphragm structure
- Built-in amplifier circuit
- 2 types to choose from (Gauge and Absolute pressures)
- Incorporating temperature compensation function (0 ~ 50 °C)
- Voltage output mode
- Available with a * VCR® fitting

INTERNAL STRUCTURE PA-830 (G 1/8)



Part name		Material
①	Fitting	SUS 316L
②	(P15 or P12.5) "O" ring	Fluoro-rubber
③	Housing	Aluminum
④	Compensation resistor board	Ceramic
⑤	Sealed liquid	Silicone oil

MODEL NUMBER DESIGNATION

PA-830-102A-05

Series name

Rated pressure range

101 : 0 ~ 9.8 kPa {0 ~ 0.1 kgf/cm²}
 351 : 0 ~ 34.3 kPa {0 ~ 0.35 kgf/cm²}
 501 : 0 ~ 49.0 kPa {0 ~ 0.5 kgf/cm²}
 102 : 0 ~ 98.1 kPa {0 ~ 1 kgf/cm²}
 352 : 0 ~ 343 kPa {0 ~ 3.5 kgf/cm²}
 103 : 0 ~ 981 kPa {0 ~ 10 kgf/cm²}

Thermal error/Fitting

05 : ± 0.05 % F.S./°C, G 1/8
 10 : ± 0.1 % F.S./°C, G 1/8
 R2 : ± 0.05 % F.S./°C, R 1/4
 VCR : ± 0.05 % F.S./°C, VCR®

Pressure reference

G : Gauge
 A : Absolute
 V : Gauge (Vacuum)

※ Please refer to the LIST OF MODEL NUMBERS when placing orders.

※ VCR® is a registered trade name of Cajon Co. CAJON® is a registered trade name of Swagelok Co.

Note: For handling of VCR fittings, please contact a service center of Swagelok Co.

PA-830

PRESSURE TRANSDUCERS WITH AMP.

LIST OF MODEL NUMBERS

Output	Pressure reference		Gauge						Absolute	
	{% F.S./°C} Thermal error	kPa {kgf/cm²} Rated pressure range	0 ~ 9.8 {0 ~ 0.1}	0 ~ 49.0 {0 ~ 0.5}	0 ~ 98.1 {0 ~ 1}	0 ~ 343 {0 ~ 3.5}	0 ~ 981 {0 ~ 10}	0 ~ 98.1 {0 ~ 1}	0 ~ 34.3 {0 ~ 0.35}	0 ~ 98.1 {0 ~ 1}
Voltage output	± 0.05	Fitting : G 1/8		PA-830 -501G-05	PA-830 -102G-05	PA-830 -352G-05	PA-830 -103G-05	PA-830 -102V-05	PA-830 -351A-05	PA-830 -102A-05
		Fitting : R 1/4		PA-830 -501G-R2	PA-830 -102G-R2	PA-830 -352G-R2	PA-830 -103G-R2	PA-830 -102V-R2	PA-830 -351A-R2	PA-830 -102A-R2
		Fitting : VCR		PA-830 -501G-VCR	PA-830 -102G-VCR	PA-830 -352G-VCR	PA-830 -103G-VCR	PA-830 -102V-VCR	PA-830 -351A-VCR	PA-830 -102A-VCR
	± 0.10	Fitting : G 1/8	PA-830 -101G-10	PA-830 -501G-10	PA-830 -102G-10	PA-830 -352G-10	PA-830 -103G-10	PA-830 -102V-10	PA-830 -351A-10	PA-830 -102A-10

☐: Not available

※ Verify the above model numbers when placing orders.

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-830							
		101G	501G	102G	352G	103G	102V	351A	102A
General specifications	Pressure reference	Gauge						Absolute	
	Rated pressure range kPa {kgf/cm²}	9.8 {0.1}	49.0 {0.5}	98.1 {1}	343 {3.5}	981 {10}	98.1 {1}	34.3 (abs) {0.35}	98.1 (abs) {1}
	Maximum pressure kPa {kgf/cm²}	19.6 {0.2}	98.1 {1}	196 {2}	686 {7}	1961 {20}	196 {2}	103 (abs) {1.05}	196 (abs) {2}
	Break-down pressure kPa {kgf/cm²}	29.4 {0.3}	147 {1.5}	294 {3}	1030 {10.5}	2942 {30}	294 {3}	147 (abs) {1.5}	294 (abs) {3}
	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)							
	Pressure medium	Corrosive gases/liquids compatible with SUS 316L ※ 1							
	Insulation resistance MΩ minimum	100 (500 V DC)							
	Dielectric strength	500 V AC, 60 s (Leakage current 1 mA maximum)							
	Sealed liquid	Silicone oil							
	Pressure port	G 1/8 (PF 1/8)、R 1/4 (PT 1/4)、1/4 VCR® ※ 2							
	Net weight g	Approx. 140							
Power	Supply voltage V DC	12 ~ 24 ± 10 %							
	Ripple content maximum	10 % (P-P)							
	Consumption current mA maximum	20							

※ 1 PA-830-VCR : Also compatible with SUS316.

※ 2 An "O" ring is provided for only G1/8 type. (Positive pressure : P15, Negative/Absolute Pressure : P12.5)

PA-830

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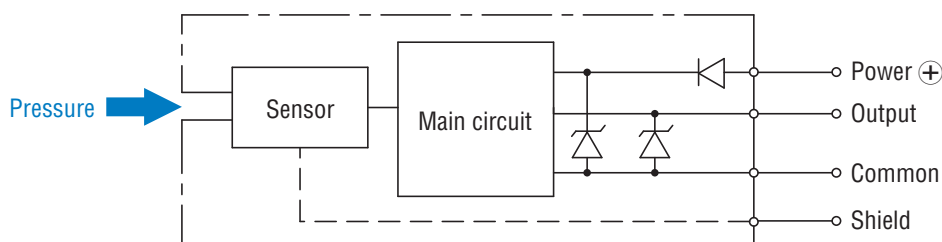
Item		Model number	PA-830							
			101G	501G	102G	352G	103G	102V	351A	102A
Analog output	Output voltage V DC		1 ~ 5							
	Zero voltage V		1 ± 0.04 (at 25 °C)							
	Span voltage V		4 ± 0.04 (at 25 °C)							
	Output current mA maximum		1 (Load resistance 5 kΩ minimum)							
	Linearity/Hysteresis %F.S.		± 0.5	± 0.3		± 0.5		± 0.3	± 0.5	
	Thermal error 0 ~ 50 °C (Reference temp.: 25 °C)	ZERO %F.S./°C	± 0.05/± 0.1 ※ 3							
		SPAN %F.S./°C	± 0.05/± 0.1 ※ 3							
	Supply voltage effect V maximum		± 0.1							
	Response ms		Approx. 2							
	Gravitational effect (From vertical position to horizontal position) %F.S. max.		Approx. 1	Approx. 0.5	Approx. 0.3	Approx. 0.1	Approx. 0.05	Approx. 0.3	Approx. 0.5	Approx. 0.3

※ 3 The thermal error of the PA-830-101G will be ± 0.1 %F.S./°C only.

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, Span voltage: ± 1 %F.S. maximum each and ±3 %F.S. (101G) each
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.	

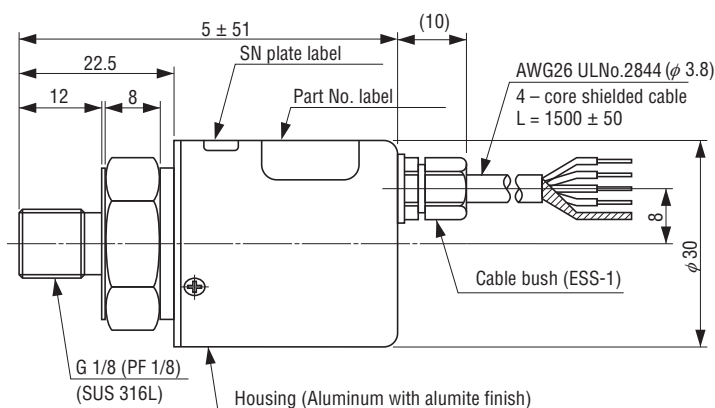
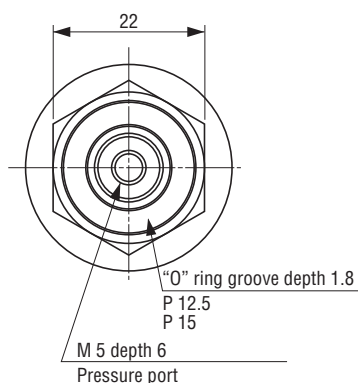
INTERNAL ELECTRICAL SCHEMATICS



- **G1/8 type**

PA-830

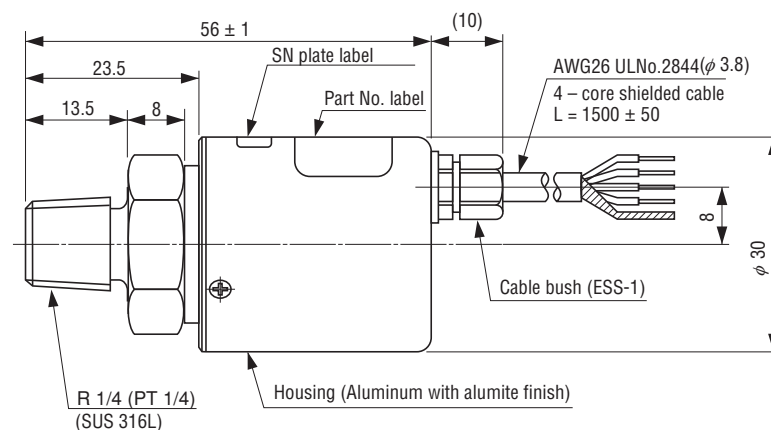
Wire color	Connection
Red	Power (+)
White	Output
Green	N.C.
Black	Common
Shield	Fitting



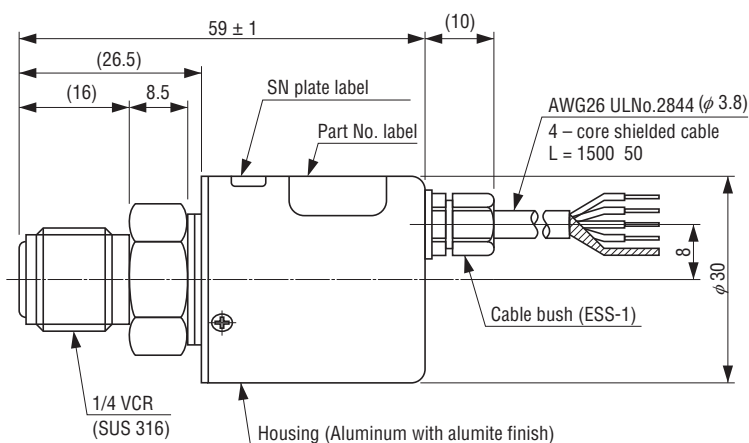
22

25.4

M 5 depth 6
Pressure port



Technical drawing of a hexagonal bolt head. The drawing shows a hexagon inscribed within a circle. The diameter of the circle is indicated by a dimension line with arrows, labeled with the number 19. The hexagon has concentric circles centered within it, representing the bolt's threads. The drawing is oriented with one vertex of the hexagon pointing upwards.



Mouser Electronics

Authorized Distributor

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