

COPAL ELECTRONICS

Pressure Transducer with Built-in Amplifier
PA-750/PA-758

Instruction Manual Ver.2.2

Thank you very much for choosing our product.
Please be sure to read through the Operating Instructions before operating the product to ensure correct and optimal use. Keep the Operating Instructions handy for future reference.

Operating precautions

Be sure to read the Operating precautions before using the product.

⚠ This symbol indicates that the possibility of serious physical injury or serious material damage in the event the product is used improperly.

CAUTION

- The applicable media for the product are gases and liquids that do not erode SUS316L and SUS304.
- Do not apply pressures that exceed the maximum rated pressure. Should this precaution be neglected, there is a possibility that the characteristics will vary or the output will become unstable.
- Do not insert foreign materials, such as a wire, into the pressure port. Should this precaution be neglected, the characteristics may vary or the product may be damaged.
- Do not apply excessive force to the housing or the cables during the piping/wiring work. Should this precaution be neglected, the characteristics may vary or the product may be damaged.
- Do not improperly connect the wires to the terminals. Should this precaution be neglected, the internal circuit may be damaged.
- The protective construction of the product is IP65. Do not use the product in an environment exceeding the IP65 rating. Should this precaution be neglected, there is a possibility of product failure.
- Do not connect a load that makes the electric current exceed 1 mA (PA-750 only). Should this precaution be neglected, the internal circuit may be damaged.
- Be sure to use a stable DC power supply source for the power supply unit. For protection of induction load of the relay or the solenoid, be sure to insert a surge-absorbing element (diode, varistor, etc.). For use of a power supply unit such as a switching power supply, be sure to provide an FG terminal.
- Be sure to use a stable DC power supply for the product.
- Wires should be installed apart from the power line that handles high power as far as possible.

Piping work

Wrap shielding tape around the screw of joint and screw it into the suitable pipe. For this work, apply a spanner on the cut surface of joint (four surfaces) and tighten the screw gradually. The pipe should be installed with the joint facing downward or sideways.

CAUTION

- Never tighten the screw by holding the product body or the resin housing/connector only.
- Do not install the pipe with the joint facing up (including an obliquely upward direction). Should this precaution be neglected, the liquid may stay in the pressure-receiving area, thus resulting in damage by freezing.

Operating precautions for UL recognition products

These Products shall be connected to Class 2 power supply only. Moreover, confirm following table if using as UL recognition products.

Model	Power supply	Maximum surrounding air temperature
PA-750	10.8-30 VDC, Class 2	80°C
PA-758	24 VDC, Class 2	70°C

Model number designation

PA750 - * * * □ - □ □ - □ □
(1) (2) (3) (4) (5)

- (1) Model number
PA-750 : Analog voltage output type (1-5V)
PA-758 : Analog current output type (4-20mA)

- (2) Rated pressure
102G : 0 to 0.1 MPa
352G : 0 to 0.35 MPa
103G : 0 to 1.0 MPa
353G : 0 to 3.5 MPa
102V : 0 to -0.1 MPa
102R : -0.1 to 0.1 MPa
302R : -0.1 to 0.3 MPa
102A : 0 to 0.1 MPa(abs)

- (3) Pressure reference
G : Gauge pressure (positive pressure)
R : Gauge pressure (compound pressure)
V : Gauge pressure (vacuum pressure)
A : Absolute pressure

- (4) Joint profile
R1 : R1/8
R2 : R1/4

- (5) Attachment of cable
No designation : Connector cable (1.5 m, standard) provided
1 : Connector cable Not provided

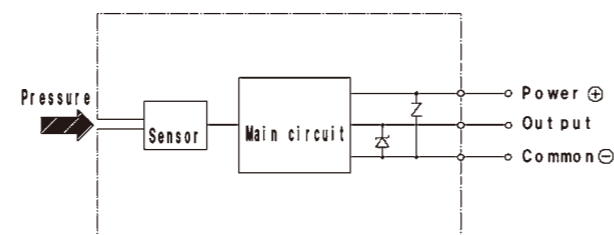
Wiring: connector cable

The connector cable that comes with the product should be wired according to the table shown below:

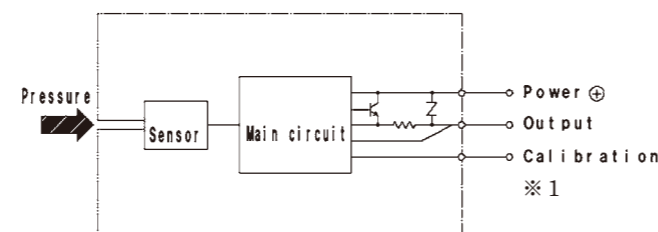
PA-750		PA-758	
Color	Connection	Color	Connection
Brown	Power supply	Brown	Power supply
Blue	Common	White	Current output
White	Voltage output	-	-

Internal electrical schematics

◎PA-750



◎PA-758

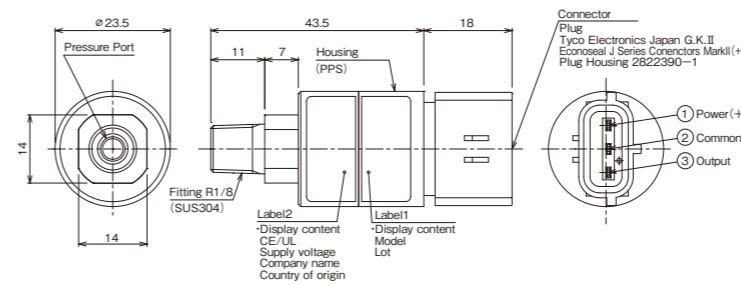


NOTE

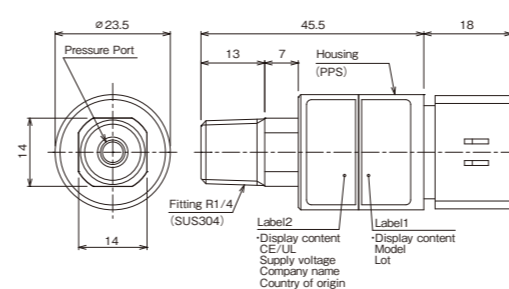
※1 Do not wire the Calibration pin. Should this precaution be neglected, there are possibilities of product failure or damage if the voltage is applied.

Outline dimensions [Unit : mm]

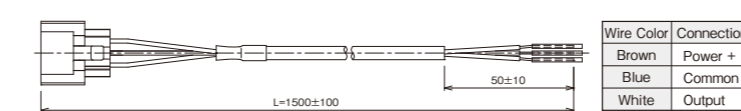
(1) PA-750 Configurations of joint R1 (R1/8)



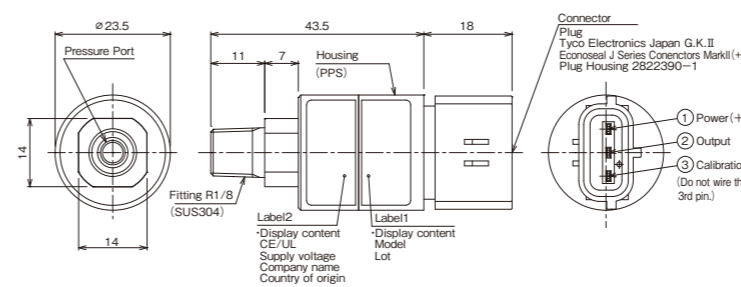
(2) PA-750 Configurations of joint R2 (R1/4)



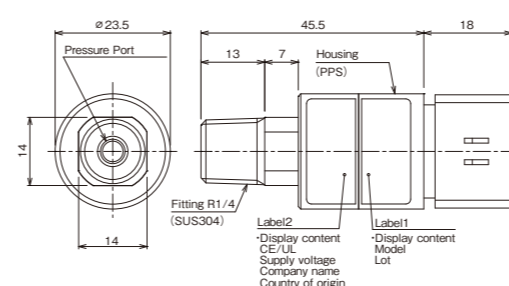
(3) PA-750 Connector cable



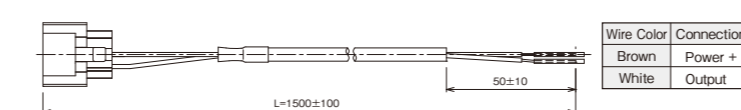
(4) PA-758 Configurations of joint R1 (R1/8)



(5) PA-758 Configurations of joint R2 (R1/4)



(6) PA-758 Connector cable



Specifications

Model	PA-750/PA-758			
Model number	102R	302R	G/V/A	
Operating temp.	PA-750	-20 to 80°C		
	PA-758	-20 to 70°C		
Compensated temp.	0 to 50°C			
Storage temp.	-20 to 80°C			
Pressure medium	Corrosive gases/liquids compatible with SUS316L and SUS304.			
Sealed liquid	Silicone oil			
Drip-proof structure	IP65 (with Cable Assembly)			
Weight	Approx. 50g (R2 body only:Not including cable)			
Supply voltage	PA-750	10.8 to 30V DC (including ripple)		
	PA-758	24V DC ±10%		
Output	PA-750	1 to 5V		
	PA-758	4 to 20mA		
Limited output	PA-750	5.2 V, Max.		
	PA-758	21.6 mA, Max.		
Zero output	PA-750	3 ± 0.04V	2 ± 0.04V	1 ± 0.04V
	PA-758	12 ± 0.2 mA	8 ± 0.2mA	4 ± 0.2mA
Span output	PA-750	4 ± 0.04 V		
	PA-758	16 ± 0.2 mA		
Linearity/Hysteresis	PA-750	±0.3% FS		
	PA-758	±0.5% FS		
Thermal error	Zero	±0.05% FS/°C		
	Span	±0.05% FS/°C		
Consumption current (PA-750)	10mA or below (no load; At output current 0mA)			
Load resistance (PA-758)	500 Ω or below			

Warranty

The warranty period for the product shall be one year. A failure due to causes attributed to design or manufacturing defects during the period one year from the date of delivery shall be repaired or replaced free of charge. However, the term "warranty" herein referred to shall imply the warranty for the product unit only, and damages from failure of the product shall be excluded. The following shall be excluded from the warranty:

- Failure or damage caused by improper use and careless operation in violation of the Operating Instructions.
- Failure or damage caused by inappropriate modification, adjustment, or repair.
- Failure or damage caused by acts of God, fire, or other unavoidable accidents.
- Replacement of accessories (cables, etc.) that come with the product.

For inquiries regarding the product, please contact

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