Nidec PA-750 Pressure Transducer with Built In Amplifier Instruction Manual

Contents

Nidec PA-750 Pressure Transducer with Built In Amplifier

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.

CAUTION
These products (pressure sensors, pressure switches, pressure gauges, pressure indicators, leakage sensors, etc.) are designed and manufactured as general industrial parts. Therefore, a person with sufficient knowledge and experience shall confirm the conditions and environments described in the catalog, specifications, and instruction manual of each product, check the suitability of the product for the machine, device, or system which you use, and ensure safety before use.
These products are not intended to be used for applications particularly requiring high reliability (These include, but are not limited to, nuclear power control, aerospace and military purposes).

The details of warranty shall be as per the descriptions in this document and we shall not be liable for any damage to you resulting from the use of any equipment or device (including control systems) which is not by this document (hereinafter referred to as “use in violation”). In the case where you resell our products, we shall not be liable for any damage on a third party resulting from use in violation by the third party, and even if we make payment to the third party in connection with such use in violation regardless of the name by which such payment may be called, we may demand the whole amount thereof from you.

 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 1mA 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

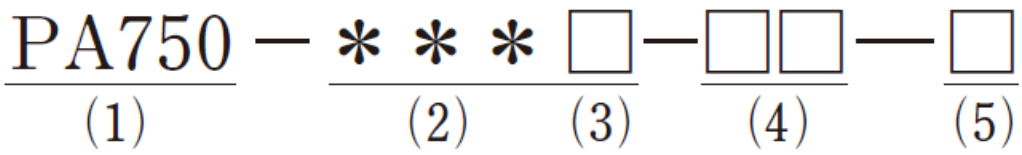
Wrap shielding tape around the screw of joint and screw it into the suitable pipe. For this work, apply a spanner on the cut surface of joint four surfaces and tighten the screw gradually. The pipe should be installed with the joint facing downward or sideways.

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 the 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



Model number
-

Analog voltage output type 1-5V

Analog current output type 4-20mA

Rated pressure

- : 0 to 0.1
- : 0 to 0.35
- :0 to 1.0
- :0 to 3.5
- :0 to 0.1
- : 0.1 to 0.1
- : 0.1 to 0.3
- :0 to 0.1 abs

Pressure reference

- :Gauge pressure positive pressure
- :Gauge pressure compound pressure
- : Gauge pressure vacuum pressure
- : Absolute pressure

Joint profile

- :
- :

Attachment of cable
No designation: Connector cable 1.5 m, standard provided
Connector cable Not provided

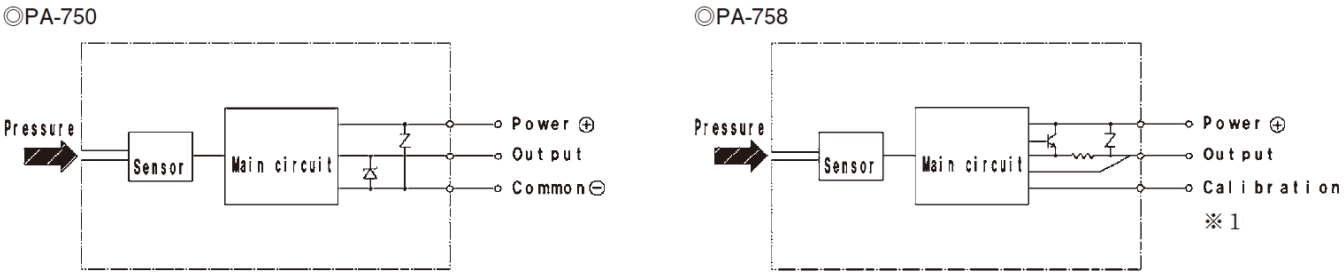
Wiring: connector cable

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

750	
Color	Connection
Brown	Power supply
Blue	Common
White	Voltage output

758	
Color	Connection
Brown	Power supply
White	Current output

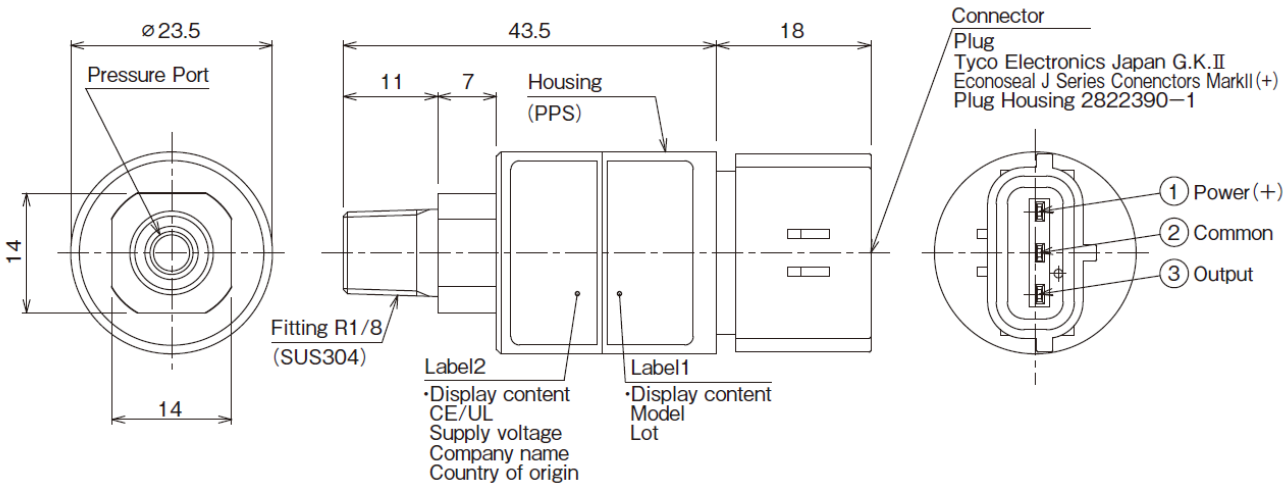
Internal electrical schematics



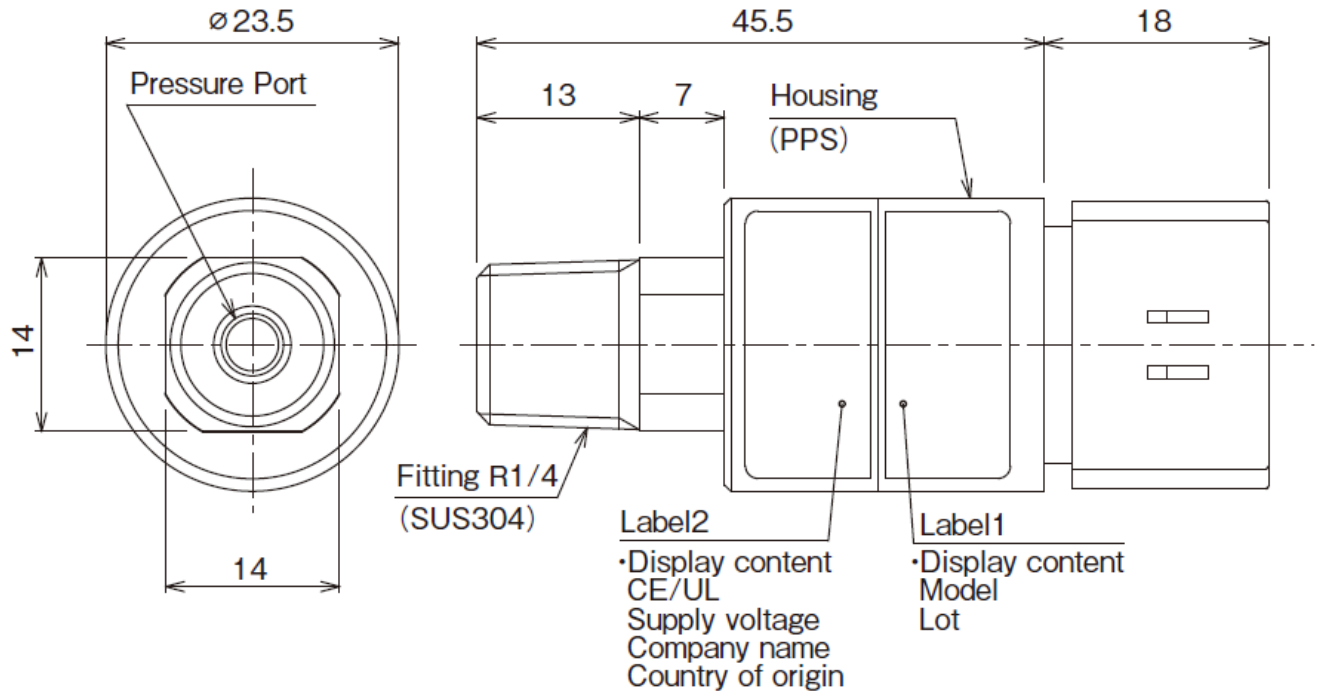
NOTE
Do not wire the Calibration pin. Should this precaution be neglected, there are possibilities of product failure or damage if the voltage is applied.

Outline dimensions [Unit m m]

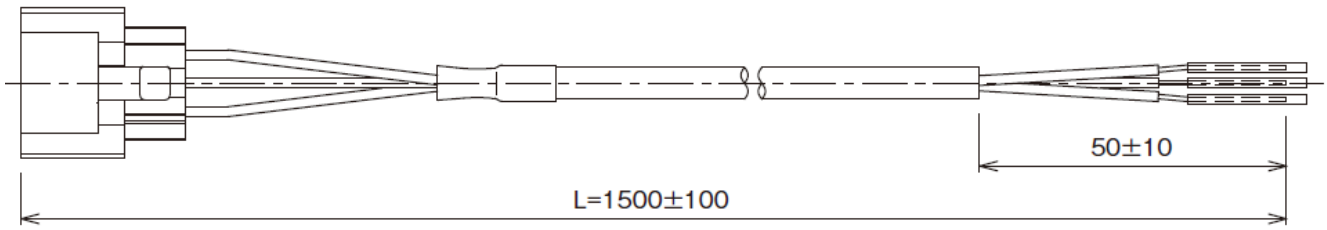
- PA-750 Configurations of joint R1 R1/8



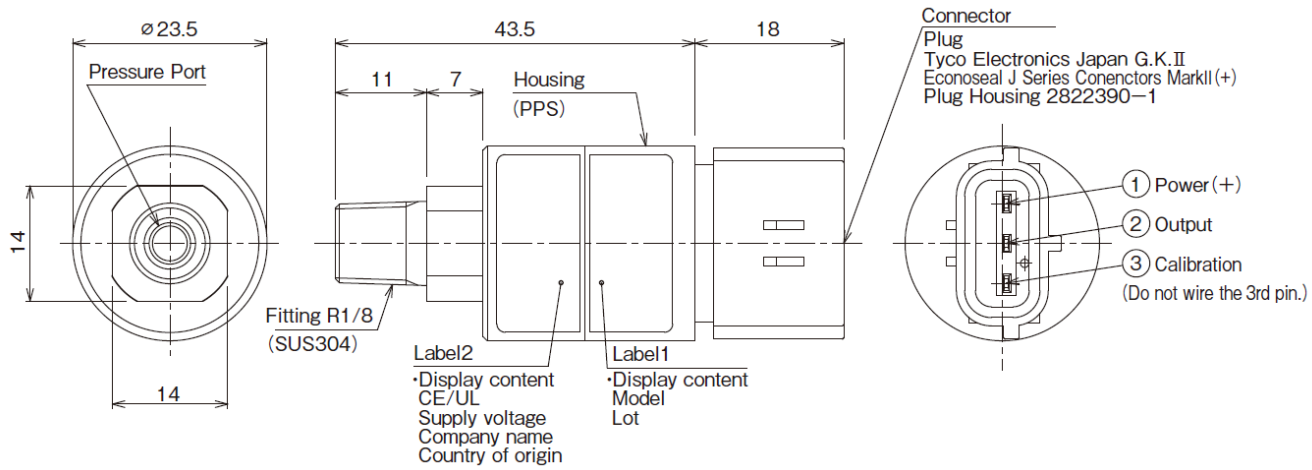
- PA-750 Configurations of joint R2 R1/4



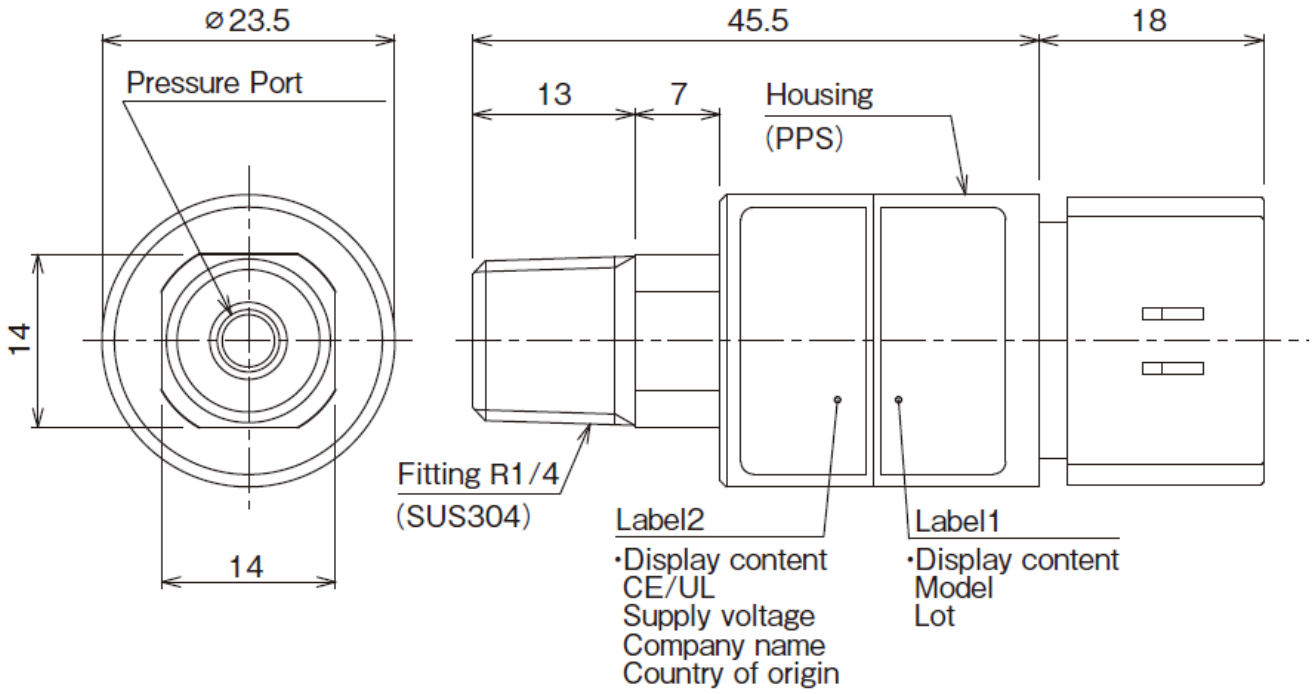
- PA-750 Connector cable



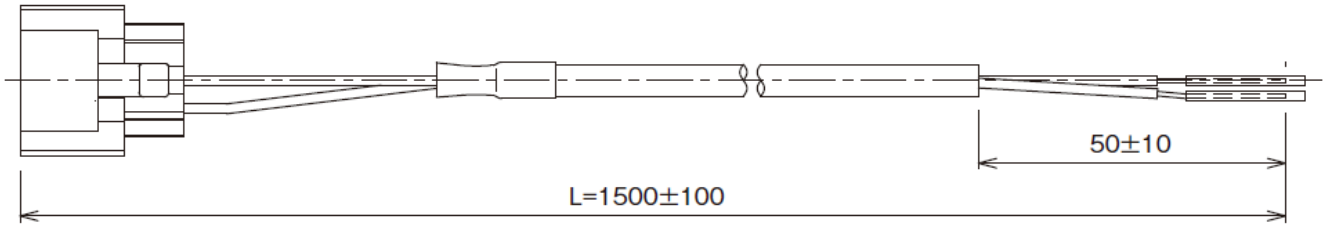
- PA-758 Configurations of joint R1 R1/8



- PA-758 Configurations of joint R2 R1/4



- PA-758 Connector cable



Wire Color	Connection
Brown	Power +
White	Output

Specifications

Model		750 758		
Model number				G/V/A
Operating temp.	PA-750	20 to 80℃		
	PA-758	20 to 70℃		
Compensated temp.		0 to 50℃		
Storage temp.		20 to 80℃		
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	±		
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		
The mal error	Zero	±0.05% FS/℃		
	Span	±0.05% FS/℃		
Consumption current PA-750		10mA or below no load; At output current 0mA		
Load resistance PA-758		500 Ω or below		

Warranty and Disclaimer

1. The warranty period of these products is one year after delivery to a designated place. The warranty mentioned here is limited to the warranty of a delivered product itself, and it does not cover consumables such as batteries. Each product has its specifications, such as durability (pressure cycles). Therefore, check with each service

office.

2. If a failure or damage of the product occurs during the warranty period, for which we are responsible, we will promptly replace or repair the product free of charge. The warranty mentioned here means the warranty of the product itself and does not cover any damage induced by a failure of the product.
3. The warranty does not cover when any of the following items is applicable: The failure is caused by conditions, environments, or handling not described in the catalogue and agreed specifications and other documents.
    - The product has been modified, adjusted, or repaired by a person/company other than our company after delivery.
    - The failure cannot be foreseen by the scientific and technological knowledge at the time of delivery.
    - The failure is caused by force majeure such as disasters.

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Documents / Resources

	Nidec PA-750 Pressure Transducer with Built In Amplifier [pdf] Instruction Manual PA-750, PA-750 Pressure Transducer with Built In Amplifier, Pressure Transducer with Built In Amplifier, Transducer with Built In Amplifier, Built In Amplifier, Amplifier

References

- NIDEC COMPONENTS
- User Manual