

COPAL ELECTRONICS

Pressure Transducers with Amp.

PA-838 series

Instruction Manual Ver. 1.2

Thank you for purchasing NIDEC COPAL ELECTRONICS CORP. product.

In order to use the product correctly and most appropriately, please completely read this manual before use and keep it for future reference.

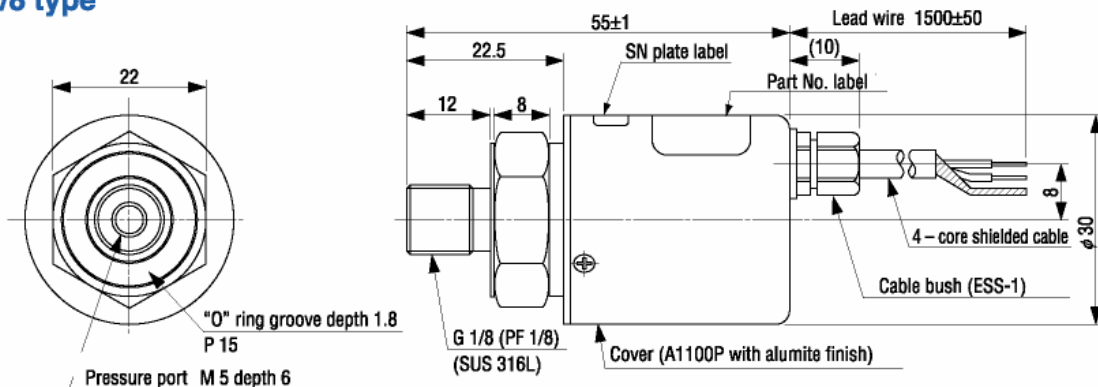
【Notes of Handling】

- ! The product can be used for corrosive gases/liquids compatible with SUS316L.
- ! Never insert any foreign matters, like wire or needle, into the pressure port hole.
- ! Do not give any unnecessary force to the main body and the cable when installing the product.
- ! Place the wirings as far away as possible from the power lines carrying large power.
- ! Since the product is not a drip-proof structure, it cannot be used under the environment where liquid potentially drips.

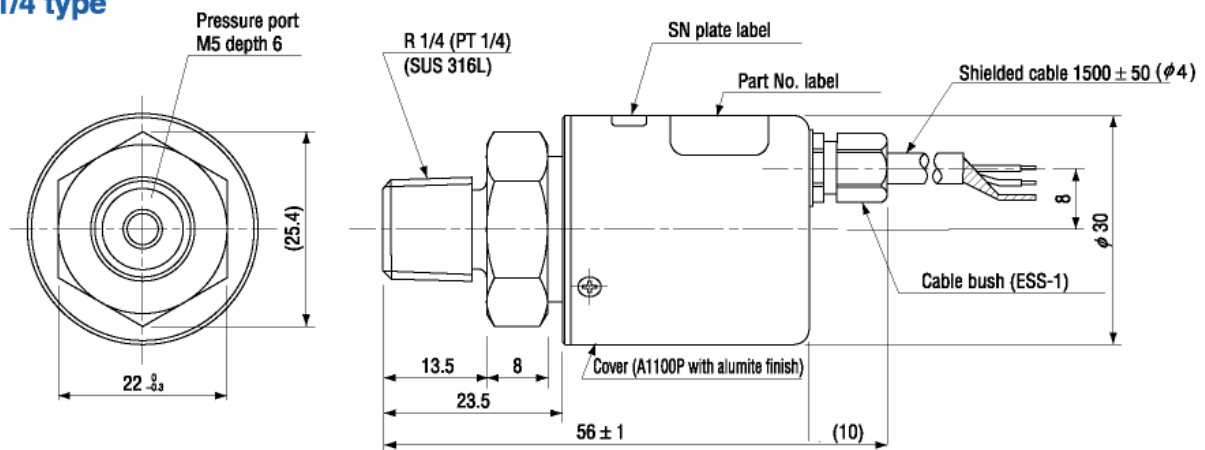
【Outline Dimensions】

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

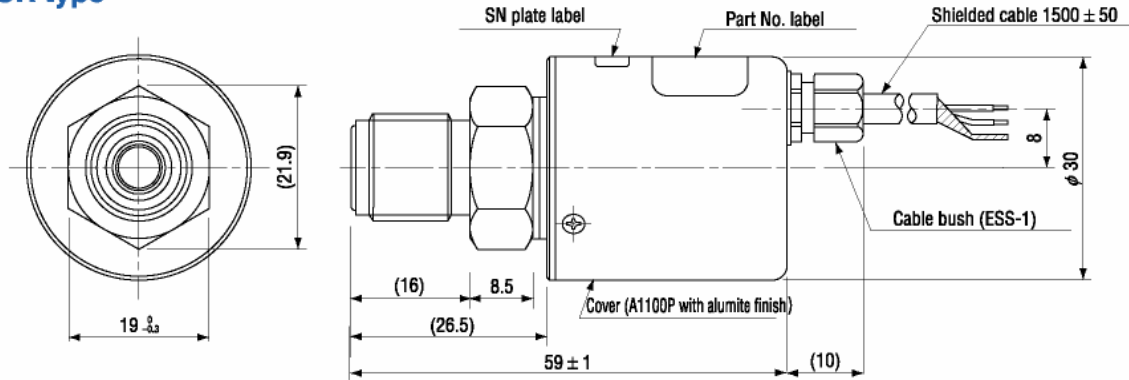
● G1/8 type



● R1/4 type



● VCR type



【Specifications】

- 1 Part number : PA-838-***G-**
- 2 Rated pressure range : *Refer to the following table
- 3 Maximum pressure : *Refer to the following table
- 4 Break-down pressure : *Refer to the following table
- 5 Output Current : 4 to 20mA
($4 \pm 0.2\text{mA}$ (I zero) $16\text{mA} \pm 0.2\text{mA}$ (I span))
- 6 Linearity / Hysteresis : $\pm 0.3\% \text{FS}$ (501G,102G) $\pm 0.5\% \text{FS}$ (103G)
- 7 Thermal error : $\pm 0.05\% \text{FS}/^\circ\text{C}$ (05 type) $\pm 0.10\% \text{FS}/^\circ\text{C}$ (10 type)
- 8 Supply voltage : $\text{DC}24\text{V} \pm 10\%$
- 9 Net weight : Approx. 140g
- 10 Load resistance : 500ohm max.

Unit : kPa(kgf/cm²)

Part Number	Rated pressure range	Maximum pressure	Break-down pressure
PA-838-501G	0 to 49.0 (0 to 0.5)	98.1 (1)	147(1.5)
PA-838-102G	0 to 98.1 (0 to 1.0)	196 (2)	294(3)
PA-838-103G	0 to 981 (0 to 10)	1961 (20)	2942(30)

【How to use】

1) Piping

The pressure port of the product is a gasket joint (9/16-18UNF) with external thread. Please install the product by screwing the pressure port to the matching fitting.

During this operation, put the wrench only to the hexagonal portion and do not give any unnecessary force to the main body and the cable.

2) Wiring

Connect the red lead wire to the DC 24V(+), and connect the white lead wire to the DC. Common through the measurement load (500ohm max.).

(See Fig.1)

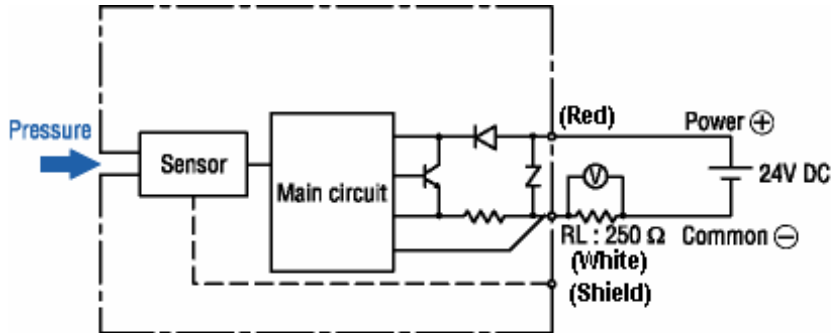
*Since the shield wire has electrical contact with the metal portion of the product, it is recommended to connect it to the DC common terminal in case the output signal fluctuates due to noise. However, do not do so, if DC common has any electric potential.

3) Output

The output current 4mA is obtained at 0 pressure, and 20mA (span current 16mA) at the rated pressure. Alternatively, the output voltage 1 to 5V is obtained between the load terminals when the resistor of 250ohm (1/4W min.) replaces the measurement load.

(Fig.1)

Recommended External Schematics



Wire Color	Connection
Red	Power (+)
White	Output
Shield	Housing
Green	No Connection
Black	No Connection

【Warranty】

This product is covered by a warranty for a period of one year from the date of delivery. This warranty covers free-of-charge repair and replacement for defects occurring through design or manufacturing inadequacy of NIDEC COPAL ELECTRONICS CORP. Even during the warranty period, the following failures will be handled on a fee basis.

- 1) Failures or damages occurring through misuse or disoperation performed not following the instruction manual.
- 2) Failures or damages occurring through improper modification, adjustment, or repair.
- 3) Failures or damages occurring through natural calamities, fires or other inevitable accidents.
- 4) Replacement of accessories (e.g. O-ring rubber, etc.)

For more detailed information, please ask for the nearest distributor or the following sales center.

COPAL ELECTRONICS

NIDEC COPAL ELECTRONICS CORPORATION

Nishi-shinjuku Kimuraya Bldg.

7-5-25 Nishi-shinjuku, Shinjuku-ku, Tokyo 160-0023, Japan

Phone : (03) 3365-7055 Fax : (03) 3364-7098

URL : <http://www.copal-electronics.com>