

# COPAL ELECTRONICS

PRESSURE TRANSDUCERS  
WITH AMP.

## PA-708

INSTRUCTION MANUAL Ver.2.0

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.

For more details 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) 3364-7055 Fax. : (03) 3364-7098

## IMPORTANT INFORMATION AND WARNINGS

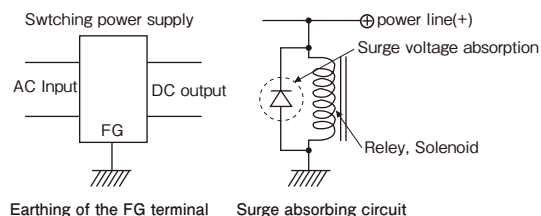


**CAUTION** ... This caution mark describes when there is a possibility that user may suffer from damage or physical damage may occur if the product is used improperly.



- ◇ This product is neither drip-proof nor dust-proof structure. Do not use it under the condition where water or oil drips, dust rises, or corrosion occurs.
- ◇ Do not apply pressure exceeding the maximum pressure as shown in the specs.
- ◇ When handling the product, be sure to pick up the body and not give an excessive force to the cable and the pressure port.
- ◇ Do not enter the foreign matter such as wire through the pressure port.
- ◇ Do not short-circuit the output terminal to the other terminals. Also, do not connect the load that would allow the current over the rated current.

- Fluorocarbon resin is gas-permeable because it is high-molecular compound. The permeability vary depending on media and temperature. Permeation of corrosive gases may result in the malfunction of the product. Please make sure the functionality of the product in complete examination under the operational conditions prior to use.
- Please use regulated DC power supply. Surge absorbing devices (e. g. diodes, varistors, etc.) are necessary if inductive loads such as relays or solenoids are connected to the power line. The FG terminal on the switching power supply should be earthed. (see the figure below)
- Izero (Zero output) is adjusted with shipment. In case of the adjustment, peel off the trimmer cap and use a screwdriver whose tip fits an adjustment slot. Affix the trimmer cap after readjustment.



## PIPING

When install the sensor, please use suitable joint for the pressure port and tighten the specified torque with joint.



Do not hold and screw up the sensor body when tightening.

Do not apply excessive force to the pressure port section when tightening as this may cause of malfunction.

## WIRING

- When wiring or changing wire, please turn off the power. Care must be taken when checking operations by connecting wires with clips.
- Please make sure of appropriate wiring before turning on the power.
- The wires should be connected as shown in the below.

Wire color	Connection
Red	Power(+)
Black	N.C.
White	Analog output
Green	N.C.
Shield	.....

## 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 Failures or damages occurring through permeation of corrosive gases.

## PART NUMBER DESIGNATION

**PA — 708 — 602R — 10 — PB**

Pressure range

102R : -100 to 100kPa

302R : -100 to 300kPa

602R : -100 to 600kPa

Thermal error

10 :  $\pm 0.1\%$  FS/°C

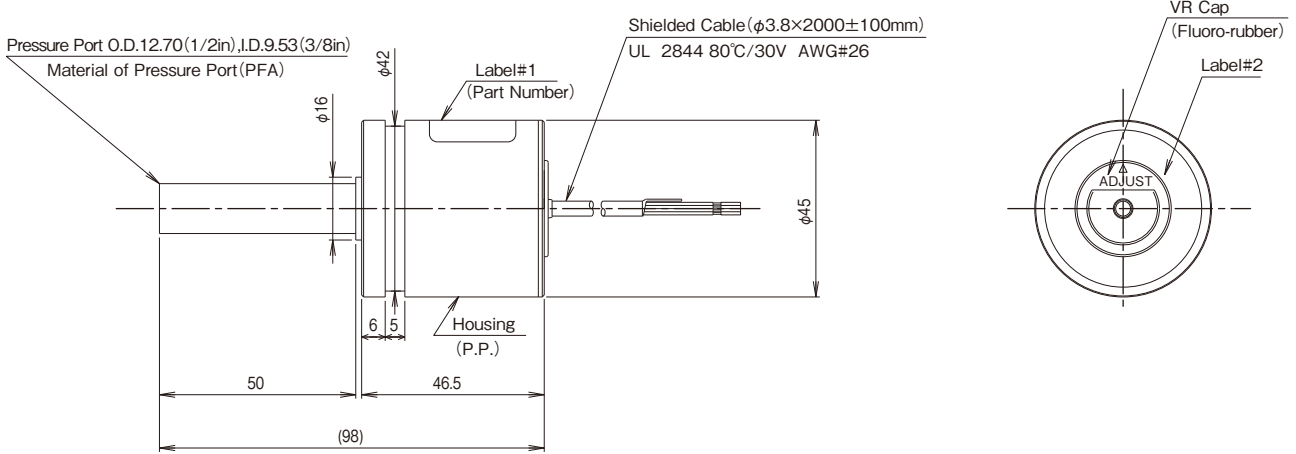
Material of pressure port

PB : PFA

## SPECIFICATIONS

Model		102R	302R	602R
Rated pressure range		-100 to 100kPa	-100 to 300kPa	-100 to 600kPa
maximum pressure		200kPa	600kPa	1200kPa
Break-down pressure		400kPa	1200kPa	1800kPa
Medium		Corrosive gases/liquids compatible with Fluorocarbon resin (PFA)		
Diameter of pressure port		O.D. $\phi 1/2$ in I.D. $\phi 3/8$ in		
Thickness of diaphragm		(0.5mm)		(0.8mm)
Output	Izero	4 $\pm$ 0.2mA		
	Ispan	16 $\pm$ 0.2mA		
Dielectric strength		500VAC, 1min. (Leakage current 1mA max.)		
Pressure medium temp. range		10 to 80°C		
Operating temp. range		10 to 50°C		
Storage temp. range		-20 to 80°C (Atmospheric pressure, humidity 65%RH max.)		
Operating humidity range		35 to 85%RH (No condensation)		
Supply voltage		24VDC $\pm 10\%$ (with ripple content)		
Load resistance		500 $\Omega$ max.		
Linearity		$\pm 1.0\%$ F.S.		$\pm 1.5\%$ F.S.
Thermal error		$\pm 0.1\%$ F.S./°C (10 to 80°C reference temp. at 25°C)		

OUTLINE DIMENSIONS (Unit : mm)



OUTPUT ELECTRICAL DIAGRAM

