

Nidec

PRESSURE TRANSDUCER WITH AMP.

PA-20

PRESSURE SWITCH

PS20

CE

(Compliance with EMC Standards)

UK
CA

INSTRUCTION MANUAL Ver.2.0

Thank you very much for purchasing our Product.

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

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

NIDEC COMPONENTS CORPORATION

Nishi-Shinjuku Prime Square bldg., 7-5-25

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WARNING



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.

[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).

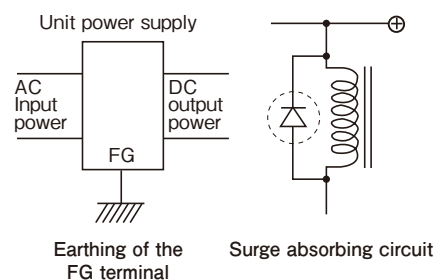
The details of warranty shall be as per the descriptions in this document and we shall not be liable for any damage on you resulting from the use of any equipment or device (including control systems) which is not in accordance with this document (hereinafter referred to as "use in violation"). In the 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.



CAUTION

- ◇The 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 use corrosive gases or liquids as pressure media.
- ◇Do not apply pressure exceeding the maximum pressure as shown in the specs.
- ◇Do not short-circuit the output terminal (switch terminal) to the other terminals. Also, do not connect the load that would allow the current over the rated current. Otherwise, the internal circuitry may be damaged.
- ◇When handling the product, be sure to pick up the body and not to give an excessive force to the cable.
- ◇When piping, do not use a wrench to any other part than the port section, and tighten the fitting with torque less than the specified torque.
- ◇When setting the pressure-setting trimmer (PS20), do not to apply too much force to them. The allowable torque for the pressure-setting trimmer should be no more than 0.02N-m.

- For stability, use a regulated DC power supply.
Surge absorbing circuits (diodes, varistors, etc.) are necessary if inductive loads such as relays and solenoids are connected to the same power line as the products.
If using a DC power supply unit such as a switching power supply, the FG terminal should be earthed. (See the figure on the right.)
- Use PH neutral detergents to clean the body.
Do not use lacquer thinner and other solvents for cleaning.



PIPING

①When using UNIVERSAL JOINT TYPE

Use a wrench on the hexagon part of the port section to tighten, and tighten with a torque of 1.0N·m or less.

②When using ALUMINUM BLOCK with through hole of M5 Hold the port section of the body, and tighten the fitting of the use.



Do not hold the main body when tightening. Also, do not use the wrench to the main body when piping.

Such handling may cause a breakage of the product.

WIRING

The wires should be connected as shown in the table below.
Be sure to connect the wires property.

Color	PA-20	PS20
Brown	Power supply	Power Supply
Blue	Common	Common
Black	Analog output	Switch output

WARRANTY AND DISCLAIMER

- 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 own specifications such as durability (pressure cycles). Therefore, check with each service office.
- 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.
- 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.

MODEL NUMBERS

PA-20 — 102V — U — 3M

Pressure range — 102V:0~100kPa
302R:-100~300kPa

Fitting part type — U: Universal joint (M5 Male)
M: Aluminum Block (Through hole M5 female)

Cable length — blank:1.5m
—3M:3m

PS20 — 102V — N — U

Pressure range — 102V:0~100kPa
302R:-100~300kPa

Switch output interface — N: NPN open collector
P: PNP open collector

Fitting part type — U: Universal joint (M5 Male)
M: Aluminum Block (Through hole M5 female)

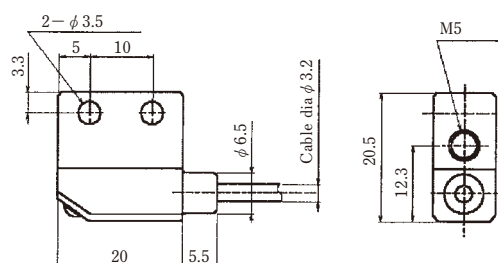
SPECIFICATIONS

Model	PA-20	
	102V	302R
Rated pressure range	0~-100kPa	-100~300kPa
Maximum pressure	200kPa	600kPa
media	Non-corrosive gases	
Operating temp./Compensated temp range	-10~60°C / 0~50°C	
Storage temp.	-20~70°C (Atmospheric pressure, Humidity 65%RH max.)	
Operating humidity	35~85%RH (No condensation)	
Supply voltage	10.8~30Vdc (Including ripple percentage)	
Current consumption	20mAmax.	
Output voltage(Load resistance 5kΩ min)	1~5Vdc (Accuracy : ± 1 %F.S.)	
Linearity	±0.5%F.S.max.	
Thermal error	±2%F.S.max. (0~50°C : Reference temp. 25°C)	

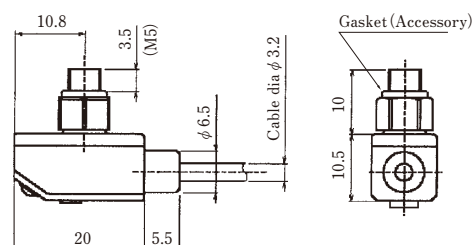
Model	PS20	
	102V	302R
Rated pressure range	0~-100kPa	-100~300kPa
Maximum pressure	200kPa	600kPa
media	Non-corrosive gases	
Operating temp./Compensated temp range	-10~60°C / 0~50°C	
Storage temp.	-20~70°C (Atmospheric pressure, Humidity 65%RH max.)	
Operating humidity	35~85%RH (No condensation)	
Supply voltage	10.8~30Vdc (Including ripple percentage)	
Current consumption	20mAmax. (When switch is OFF)	
Display	Red LED (When switch is ON)	
Setting accuracy	±3%F.S.max. (0~50°C : Reference temp. 25°C)	
Hysteresis	±2%F.S.max.	
Switching capacity	80mA Max (30Vdc)	
Response	Approx.1ms	

OUTLINE DIMENSIONS (unit : mm)

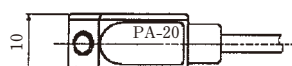
[Side view of the Aluminum Block/Through hole M5 female]



[Side view of the Universal Joint]



[Top view of the PA-20]



[Top view of the PS20]

