

Nidec

Liquid Leak Sensor

WL10 series

CE marking
(Compliance with EMC Standard) UK CA

INSTRUCTION MANUAL Ver.4.0

Thank you for purchasing NIDEC COMPONENTS CORPORATION. product.

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

NIDEC COMPONENTS CORPORATION

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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.

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.



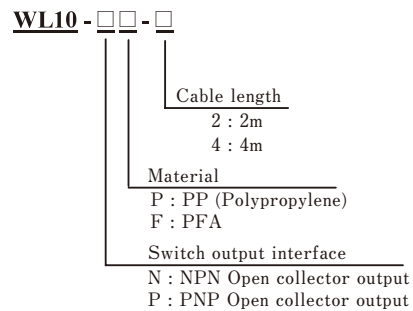
These products are not intended to be used for applications particularly requiring high reliability (These include, but are not limited to, nuclear power control, aerospace and military purposes).

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.

Handling Precautions

- Do not use this product under environment with corrosive gases.
- Highly viscous liquid may not be stably detected.
- Do not use this product for application constantly immersed into liquid.
- The detection of the sensor may be unstable when there is a presence of air bubbles on the detection part of the sensor.
- Error may occur if any liquid is left on the detection part of the sensor, or if the detection part is scratched.
- Depending on the color of the mounting surface, and/or the condition of the surface, the output may become unstable.
- When there is ambient light to the detection part of the sensor, the output may become unstable. Please make sure there is no ambient light approaching to the detection part of the sensor.
- Avoid from places with dust, dirt, and steam.
- Please turn off the power when carrying out the wiring.
- Do not use this product during system initialization. It may output excessive signal.
- Connect FG terminal on the power line to the ground when using an outside switching regulator.
- Do not wire the power line parallel to a high voltage line. It may cause malfunctions from noise.
- Please use a 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.
- Do not strongly pull the cable or the PFA tube when wiring. It may result in damage or decrease in waterproof structure.
- Do not damage or bend the PFA tube. It may result in damage or decrease in waterproof structure.
- Please provide enough straight-part at the cable near the sensor. Bending the cable near the sensor will lead to damage or decrease in waterproof structure.
- Please check if the function of the sensor is normal after installment.
- Please check the operation periodically to avoid any trouble that may arise during normal usage.
- After use, please wipe the detection part of the sensor and neighboring part gently with soft and clean cloth.
- The protective construction for this leak sensor is IP67. (According to IEC standard) Please confirm beforehand if the media is other than water.
- Be careful not to miswire. Miswiring will result in internal circuit damage. Also, do not apply voltage or load current exceeding its output capacity.

Model Designation

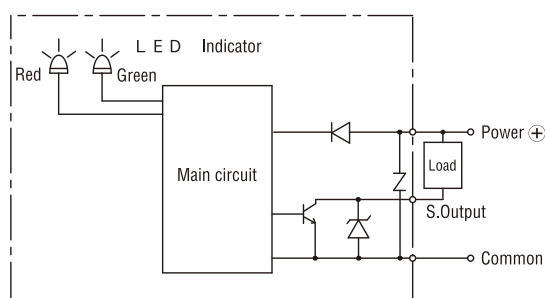


Specifications

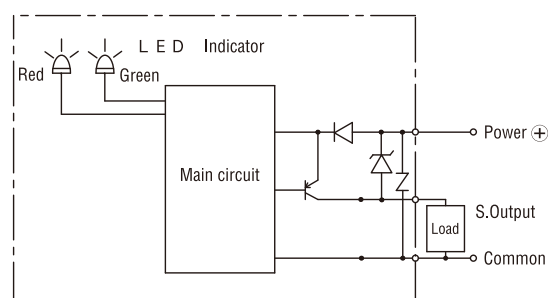
Type	WL10- *P- *	WL10- *F- *
Medium	Water	Corrosive liquid compatible with PFA
Operating temp. range	-10 to 60°C (No freezing)	
Operating humidity	35 to 85%RH (No condensation)	
Material of the body	PP (Polypropylene)	PFA (body and cable tube)
Material of the tube	—	PFA (Includes heat shrinkable tube)
Material of the inner cable	PVC	
Supply voltage	12 to 24VDC ±10% (Recommended 12VDC)	
Consumption current	10mA max.	
Indication	Normal : Switch output is ON / Green LED is ON Detection of the leakage : Switch output is OFF / Red LED is ON	
Output interface	N* - * : NPN open collector output P* - * : PNP open collector output	
Switching capacity	N* - * : Sink current : 50mA max. Voltage endurance : 30VDC P* - * : Source current : 50mA max. Voltage endurance : 24VDC	
Residual voltage	N* - * : 1.0V max., P* - * : 2.0V max.	
Protection of circuit	Over current protection Reverse polarity protection	
Protection grade	IP67 (In accordance with IEC IP-67)	
Weight	*P-2 : Approx. 30g (2m cable) / *P-4 Approx. 50g (4m cable) *F-2 : Approx. 45g (2m cable) / *F-4 Approx. 80g (4m cable)	

Internal Electrical Schematics

① WL10-N*- * Type
(NPN open collector output)



② WL10-P*- * Type
(PNP open collector output)



Mounting Method

1) Installation method of the mounting plate

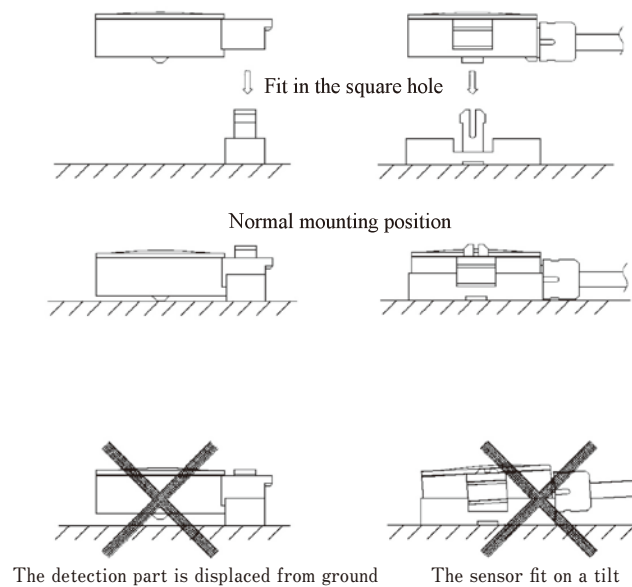
Mounting plate is to be secured by 2 pieces of M4 screw or M4 stud bolt.
The recommended tightening torque is below 0.5N·m.

2) Installation method of the sensor

Place the sensor horizontally to the mounting plate. Fit in the square hole of the sensor with the salient of mounting plate and press in the sensor so the detection part of the sensor comes out of the Mounting plate.



If the detection part is not secured properly, the sensor may not function properly.



3) Wiring

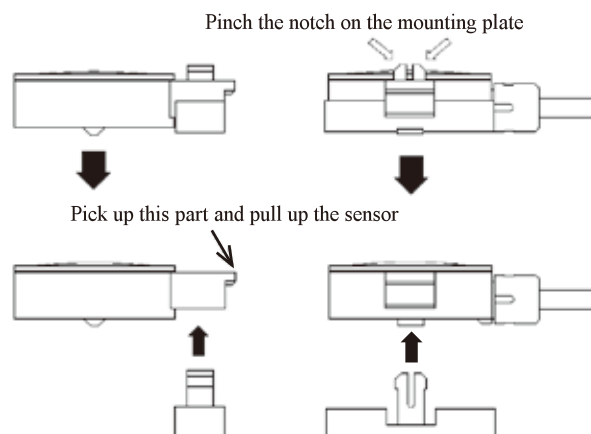
Make sure not to miswire when wiring. After installation, make sure if the sensor is working properly.



Make sure not to miswire when wiring. It may result in internal circuit damage.

4) Method for dismantling the sensor

Pinch the notch on the mounting plate and pick up the sensor.



Warranty and Disclaimer

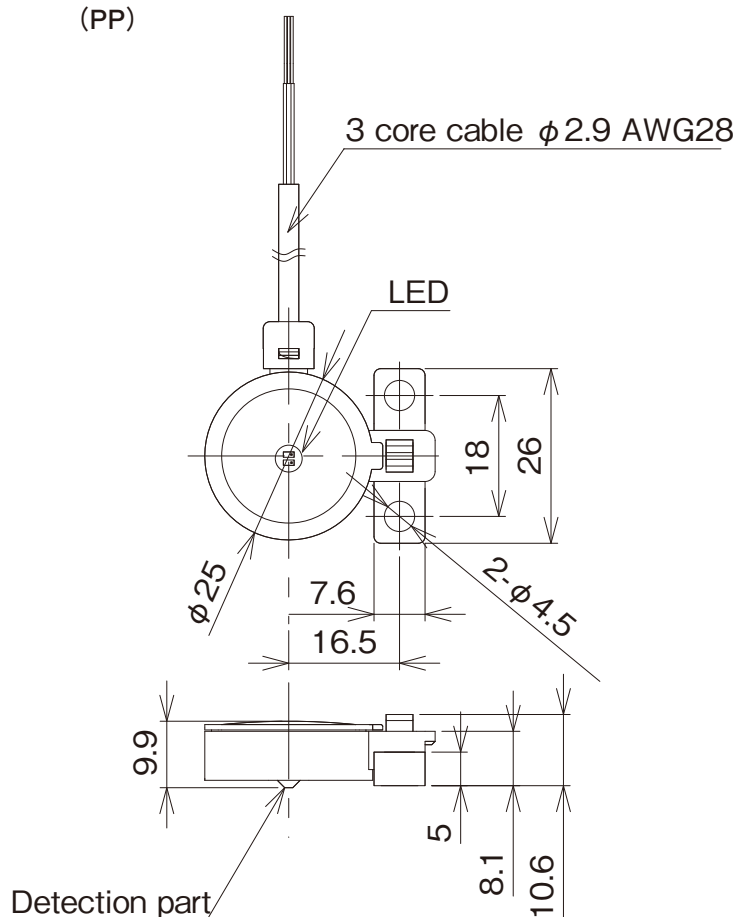
- 1) The warranty period of these products is one year after delivery to a designated place. The warranty mentioned here is limited to the warranty of a delivered product itself, and it does not cover consumables such as batteries. Each product has its own specifications such as durability (pressure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

Outline Dimensions (Unit : mm)

Type	L (Cable length)
WL10-**-2	2000mm
WL10-**-4	4000mm

Wire color	Connection
Brown	Power (+)
Black	Switch output
Blue	Common

◆WL10-**P-** Type
(PP)



◆WL10-**F-** Type
(PFA)

