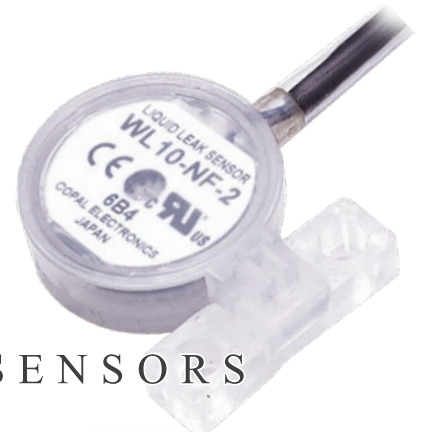


Nidec
All for dreams



LIQUID LEAK SENSORS

WL10

OPERABLE IN VARIOUS AREA

NIDEC COPAL ELECTRONICS

LIQUID LEAK SENSORS

WL10



OPERABLE IN VARIOUS AREA

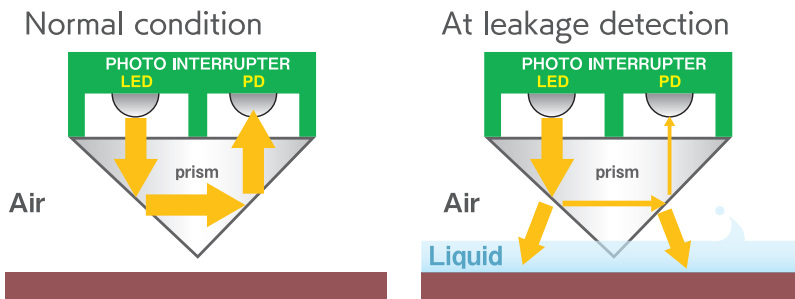


Normally, switch output is ON with keep Green LED lighting, at the liquid leak detected, switch output turns OFF and the LED changes Red.

[Features]

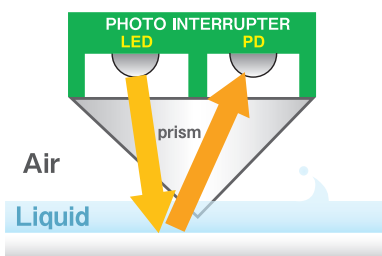
- Operable in various area by unique optical technology
- Can detect leakage without a douser and additional amplifying circuit
- PFA casing available for detecting leakage of corrosive liquid
- Detecting method: Infrared ray reflection

Detection principle

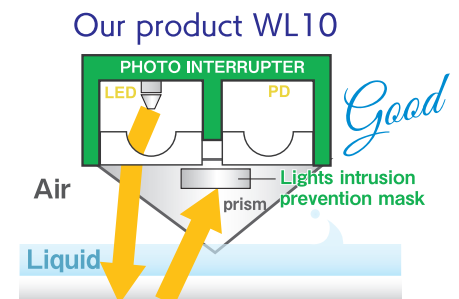
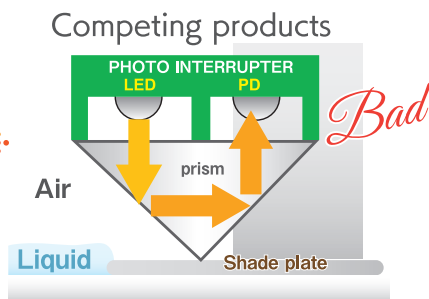


The optical Liquid leak sensor has an LED and a PD Detector inside. Normally, the light emitted from the LED is totally reflected by the prism, received by the PD, and converted to current. When the liquid comes into contact with the prism, the LED light is transmitted and diffused toward the liquid, which significantly reduces the amount of light reaching the PD. This characteristic is used for leakage detection.

Problem



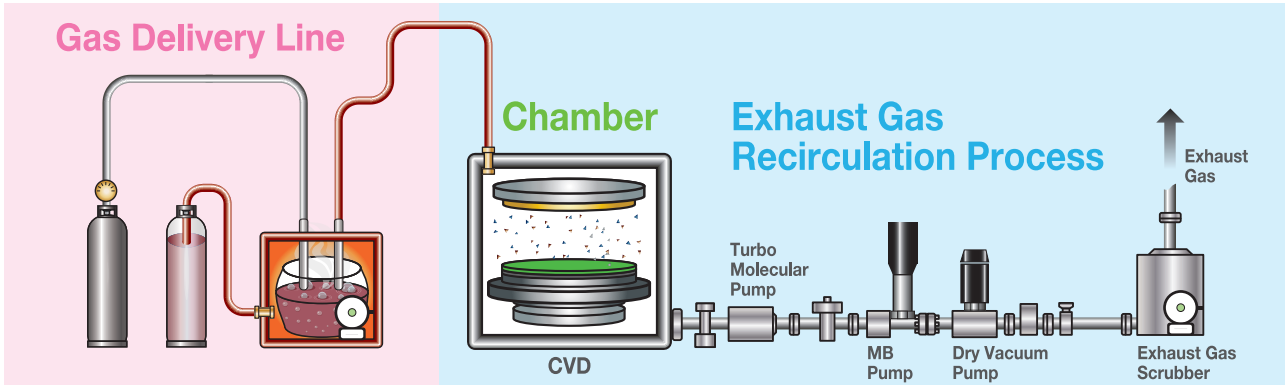
Solution



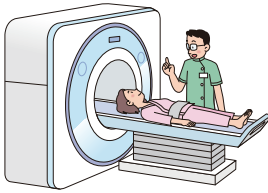
As a problem, when disturbance light or reflected light (especially when the floor surface is a mirror surface) is large, the amount of light received by the PD is also large, and it may be erroneously recognized as no liquid even when liquid leakage. To solve the problem, competing general products are equipped with a douser that prevents disturbance light and reflected light. However, this method has the disadvantage that the liquid can not get over the douser by surface tension. Our WL10 based on unique optical technology inside, which needless a douser, detects liquid leakage with high precision and quickness.

Applications

● Semiconductor production line



● Medical equipment e.g. MRI



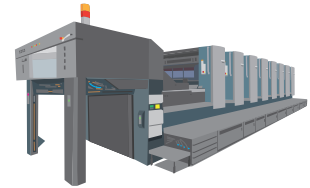
● Chemical plant



● Industrial robot



● Printing press



List of Model Numbers

Series	WL10			
Switch output interface	NPN		PNP	
Material of housing	PP	PFA	PP	PFA
Cable length	WL10-NP-2	WL10-NF-2	WL10-PP-2	WL10-PF-2
	WL10-NP-4*	WL10-NF-4*	WL10-PP-4*	WL10-PF-4*

* Manufactured upon receipt of order basis

Specifications

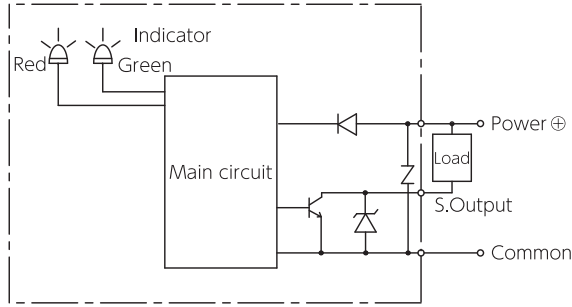
Series	WL10	
General specifications		
Operating temp. range	-10 ~ 60°C	
Operating humidity	35 ~ 85%RH (No condensation)	
Storage temp.	-20 ~ 70°C (Atmospheric pressure, humidity 65%RH maximum)	
Pressure medium	Water (PP) / Corrosive fluids compatible with PFA	
Material of housing	PP / PFA	
Net weight	Approx. 30 g (WL10-*P-2), Approx. 50 g (WL10-*P-4, WL10-*F-2), Approx. 80 g (WL10-*F-4)	
Power		
Supply voltage	12 ~ 24 VDC ±10 %	
Consumption current	10 mA maximum (Except open collector output)	
Output		
Switch output interface	NPN	PNP
Switching capacity	Voltage endurance: 30 VDC Sink current: 50 mA maximum (Over current protection)	Voltage endurance: 24 VDC Sourced current: 50 mA maximum (Over current protection)
Residual voltage	1.0 V maximum	2.0 V maximum
Operation grade	Normal condition: Switch output is ON / Green LED is ON Leakage detection: Switch output is OFF / Red LED is ON	

Environmental Characteristics

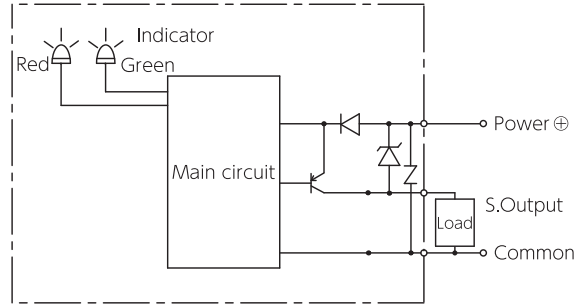
Test item	Test conditions	Specification
Vibration	10 ~ 500 Hz, 1.5 mm maximum / 98.1 m / S ₂ , 3 directions for 2 hours each	Meets standard specifications
Shock	490 m/s ² , 3 directions for 3 times each	
Protection grade	IP67	
EMC	EMI: EN55011: 2007, A2 : 2007 Group 1, class B EMS: EN61326-1: 2006 Table 2	

Internal Electrical Schematics

●NPN



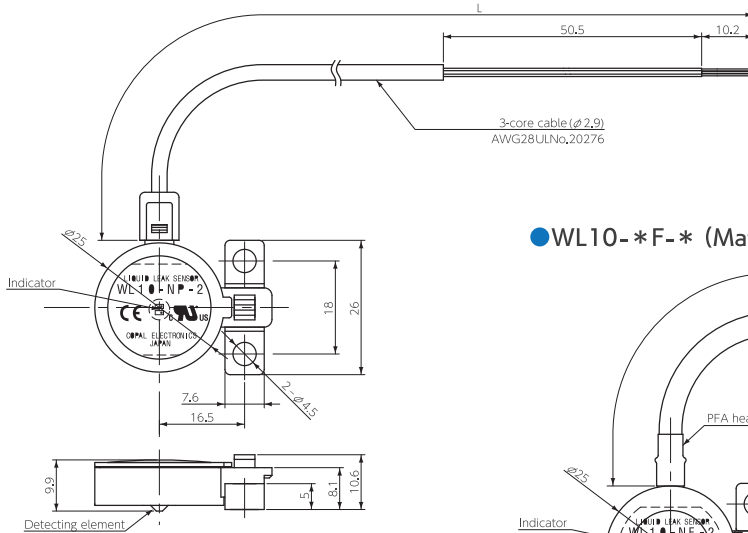
●PNP



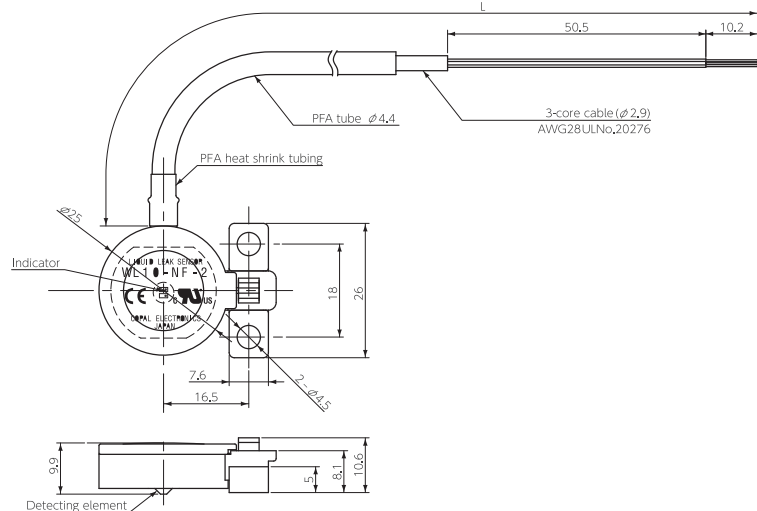
Outline Dimensions

(Unit: mm)

●WL10-*P-* (Material of housing - PP)



●WL10-*F-* (Material of housing - PFA)



Wire color	Connection
Brown	Power ⊕
Black	Output
Blue	Common

Model number	Cable length (L)
WL10-**-2	2000 ± 100 mm
WL10-**-4	4000 ± 200 mm

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■ Specifications are subject to change without notice.

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