

LEAK DETECTION SENSOR LD-01N SERIES INSTRUCTION MANUAL



Please read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product.
Kindly keep this manual in a convenient place for quick reference.

General Safety Instructions

Please always observe the following safety instructions!

Please pay attention to the safety instructions with the following pictograms and signal words in these operating instructions :



WARNING!

- This product is a sensor for detecting leak of fluids.
- When this product is used with safety devices, construct the system such that the device itself always operates in the safety side.

SPECIFICATIONS

Type	PFA mounting bracket type (For screw-fixing)	
	3m cable length type	
NPN output type	EX-F61	
Supply voltage	12 to 24V DC \pm 10% Ripple P-P 10% or less	
Current consumption	15mA or less	
Output	<p><NPN output type> NPN open-collector transistor Maximum sink current: 50mA Applied voltage: 30V DC or less (between output and 0V) Residual voltage: 1.0V or less (at 50mA sink current) 0.4V or less (at 16mA sink current)</p> <p><PNP output type> PNP open-collector transistor Maximum source current: 50mA Applied voltage: 30V DC or less (between output and +V) Residual voltage: 1.0V or less (at 50mA source current) 0.4V or less (at 16mA source current)</p>	
	Output operation	ON when normal operation, OFF when leak is detected or the sensor is mounted improperly.
	Short-circuit protection	Incorporated
Response time	50ms or less	
Abnormality indicator	Red LED (lights up when leak is detected or the sensor is mounted improperly.)	
Normal indicator	Green LED (lights up when the sensor is mounted properly.)	
Protection	IP67(IEC)	
Ambient temperature	-10 to +60°C (No dew condensation or icing allowed) (Note 3, 4), Storage: -20 to +70..	
Ambient humidity	35 to 85% RH, Storage: 5 to 85% RH	

Emitting element	Infrared LED (non-modulated)
Material	Enclosure: PFA
Protection	IP67(IEC)
Cable	0.1mm ² 3-core PFA cabtyre cable, 3m long
Protection	60g approx.

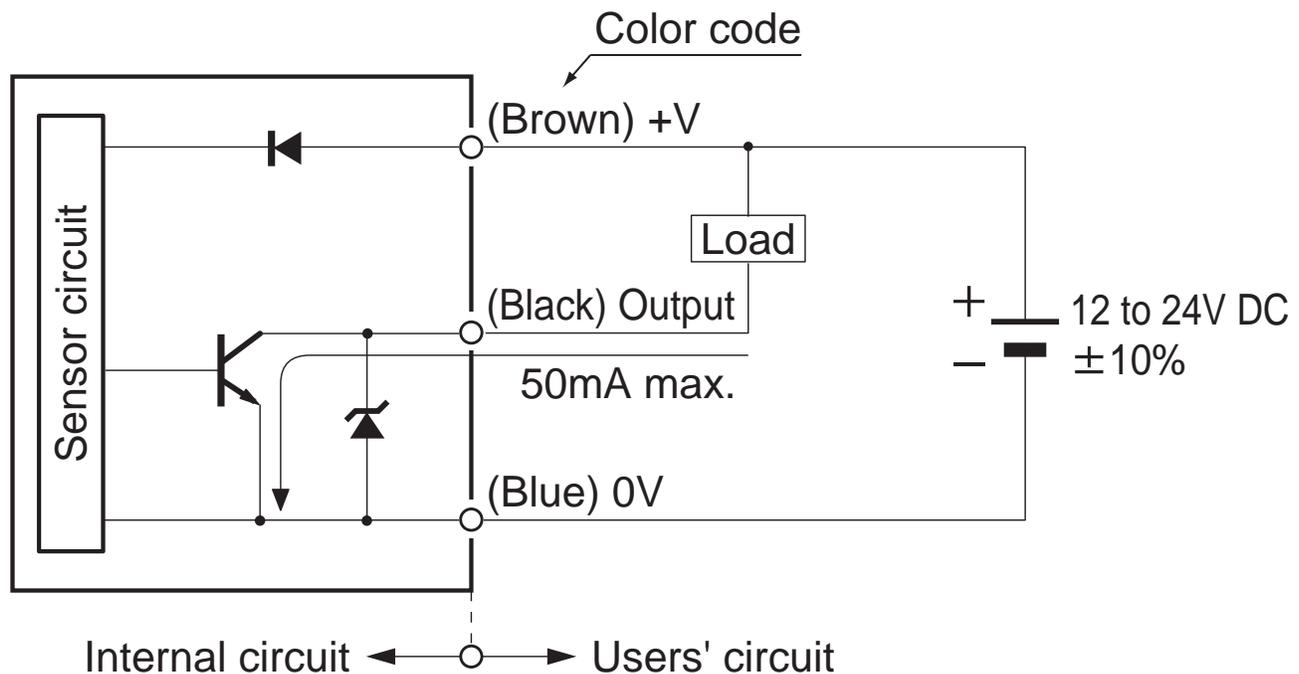
CAUTIONS

- This product has been developed / produced for industrial use only.
- Avoid using the product in an explosive atmosphere because this product does not have an explosive-proof protective construction.
- Make sure to carry out the wiring in the power supply off condition.
- Take care that wrong wiring will damage the sensor.
- Verify that the supply voltage variation is within the rating.
- Take care that if a voltage exceeding the rated range is applied, or if an AC power supply is directly connected, the sensor may get burnt or damaged.
- If power is supplied from a commercial switching regulator, ensure that the frame ground (F.G.) terminal of the power supply is connected to an actual ground.
- Do not use during the initial transient time (50m sec. approx.) after the power supply is switched on.
- In case noise generating equipment (switching regulator, inverter motor, etc.) is used in the vicinity of this product, connect the frame ground (F.G.) terminal of the equipment to an actual ground.
- Cable extension is possible up to total 50m with 0.3mm², or more, cable.
- However, in order to reduce noise, make the wiring as short as possible.
- Do not run the wires together with high-voltage lines or power lines or put them in the same race way. This can cause malfunction due to induction.
- In case a surge is generated in the used power supply, connect a surge absoeber to the supply.
- Be sure to use the exclusive mounting bracket when installing the sensor to avoid human error, etc. Reliable detection cannot be guaranteed when this mounting bracket is not used.
- Make sure to use an isolation transformer for the DC power supply. If an auto-transformer (single winding transformer) is used, this product or the power supply may get damaged.
- In case air bubbles are drawn into the sensing part, take care that it may take some time for sensing to stabilize, or sensing may even become unstable.
- When liquid remains on the sensing surface after leak detection, wipe all liquid from the sensing surface. To avoid scratching the sensing surface and the enclosed mounting bracket, use a soft cloth.

- If there is liquid remained or scratch on the sensing surface or the exclusive mounting bracket, normal operation cannot be performed.
- Avoid dust, dirt, and steam. Further, do not use this product where oil or grease splashes to the product, or in an environment containing corrosive gas, etc.
- In case of using this product 50°C or more, be sure to fix this product with a dedicated mounting bracket.

I/O CIRCUIT DIAGRAMS

● NPN output type



INTENDED PRODUCTS FOR CE MARKING

- The models listed under '1 SPECIFICATIONS' come with CE Marking.
As for all other models, please contact our office.

