SUNX

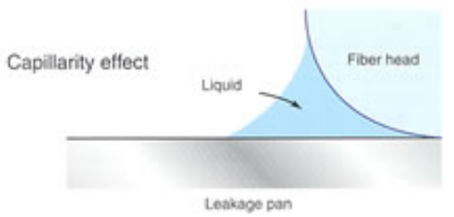
LEAK SENSOR **Amplifier built-in**

New

EX-F71

High-speed Detection
Even a Little Chemical Leak

Reliable Detection
The unique effect of capillarity enables reliable detection of small leaks and viscous liquids.



Compact, Space-saving
This slim (10mm) side-mounting sensor is especially good for use in confined spaces.

Safe Design
- If the sensor is not mounted correctly, if the cable is cut or disconnected, or if the sensor is not operating correctly, the output is the same as when the beam is not received (LEAK).
- Design deals with human errors such as, forgetting to mount, etc.

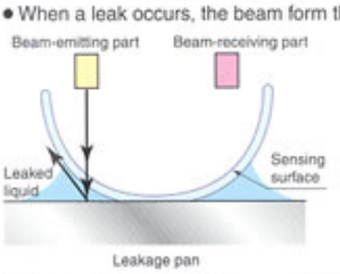
Easy Operation Check
This sensor is equipped with a NORMAL indicator (green) which lights up when mounting correctly, and a FAULT indicator (red) which lights up when sensing the leaked liquid or when mounted incorrectly (forgetting to mount exclusive mounting bracket). So, the operation can be checked easily.

No Need for Sensitivity Adjustment
No need for sensitivity adjustment with adjuster, so initial mounting is easy.

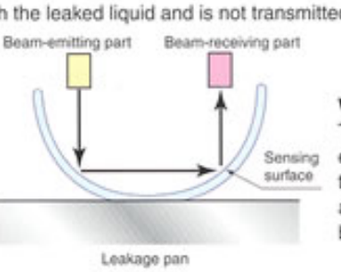
Easy Installation & Reset
- Bracket mounted with one screw, one-touch sensor mounting.
- No resetting or component replacement required after leak detection.
- The simple shape makes it easy to wipe off the leaked liquid.

New Type of Detection Method

- When a leak occurs, the beam form the beam-emitting part scatters through the leaked liquid and is not transmitted to the beam-receiving part.



When leakage occurs
The beam from the beam-emitting part scatters through the leaked liquid and is not transmitted to the beam-receiving part.



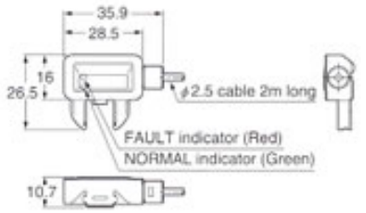
When there is no leakage
The beam from the beam-emitting part reflects off of the surface of the sensor and is transmitted to the beam-receiving part.

SPECIFICATIONS

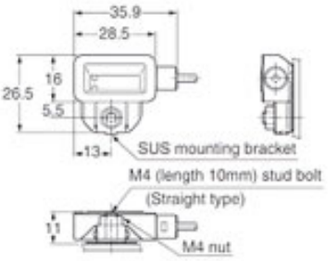
Item \ Model No.	Designation	Amplifier built-in leak sensor
	Model No.	**EX-F71**
Sensing object		Water, Fluorinert (Note 1)
Supply voltage		12 to 24V DC ± 10% Ripple P-P 10% or less
Current consumption		10mA or less
Output		NPN open-collector transistor • Maximum sink current: 50mA • Applied voltage: 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)
	Output operation	In normal state: ON When liquid leaks, or the sensor is mounted erroneously: OFF
	Short-circuit protection	Incorporated
Response time		50ms or less
FAULT indicator		Red LED (In case liquid leaks or the sensor is mounted erroneously)
NORMAL indicator		Green LED (In case the sensor is mounted normally)
Protection		IP67 (IEC)
Ambient temperature		− 10 to + 60°C (No dew condensation or icing allowed) Storage: − 20 to + 70°C (Note 2)
Ambient illuminance		Incandescent light: 500ℓx at the light-receiving face
Emitting element		Infrared LED (non-modulated)
Material		Enclosure: Polypropylene
Cable		0.1mm² 3-core PVC cabytyre cable, 2m long
Cable extension		Extension up to total 50m is possible with 0.3mm², or more, cable.
Weight		25g approx.
Accessory		SUS mounting bracket

Notes: 1) Highly viscous liquid may not be detected stably.
2) Liquid being detected should also be kept within the rated ambient temperature range.

DIMENSIONS (Unit: mm)



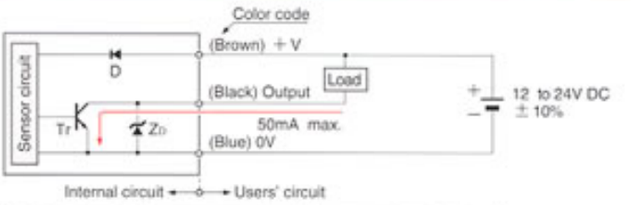
Assembly dementions with SUS mounting bracket



All information is subject to change without prior notice.

SUNX
Sensing the Future

I/O CIRCUIT DIAGRAM



Symbols ... D : Reverse supply polarity protection diode
ZD: Surge absorption zener diode
Tr : NPN output transistor

PRECAUTRIONS FOR PROPER USE

This product is not a safety sensor. Its use is not intended or designed to protect life and prevent body injury or property damage from dangerous parts of machinery. It is a normal object detection sensor.

Mounting

- Be sure to use SUS mounting bracket when installing the sensor to avoid human error. Reliable detection cannot be guaranteed when this mounting bracket is not used.
- Tightening torque of SUS mounting bracket should be 0.98N·m or less.

Wiring

- Make sure to carry out the wiring in the power supply off condition.
- 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.
- 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.
- Extension up to total 50m is possible 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 raceway. This can cause malfunction due to induction.
- Ensure that an isolation transformer is utilized for the DC power supply. If an autotransformer is utilized, the main amplifier or power supply may be damaged.
- In case a surge is generated in the used power supply, connect a surge absorber to the supply and absorb the surge.

Others

- If air bubbles are trapped within the sensing portion, take care that extra time may be required to obtain stable sensing, or stable sensing may not be achieved. Before use, thoroughly check the conditions under which the sensor is used.
- For proper treatment after a liquid leak, ensure that all liquid is completely wiped off from both the sensor's sensing surface and from SUS mounting bracket. A soft cloth must be used to ensure that scratches or other damage do not occur.
  If the sensing surface or SUS mounting bracket is scratched, or if any traces of liquid remain, then normal functionality will be impaired.
- Do not use during the initial transient time (30 sec. approx.) after the power supply is switched on.
- Since the sensor is non-modulated type, take sufficient care against extraneous light. Make sure that extraneous light is not directly incident on the sensing surface.
- These sensors must not be used at locations containing high levels of steam or dust, nor used within dangerous atmospheres, such as those containing corrosive gases.
- Take care that the product does not come in direct contact with organic solvents, such as, thinner, etc.
- If these sensors are used in an environment where static electricity is generated, then the pan used to contain liquid leaks must be made of metal and connected to a proper electrical ground.