Sensing Band

F03-16PE

- SUS316 used for core and polyethylene used for sheath to ensure high resistance to both acidic and alkaline liquids.
- Sensing Band Stickers that use the same material as the Sensing Band's insulating resin are available in 2 types: adhesive-tape type and screw type.

Ordering Information

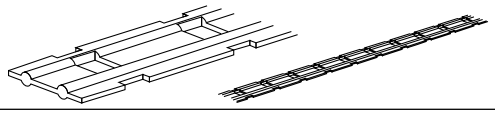
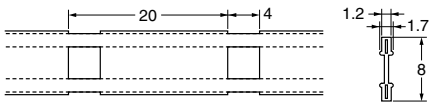
Name	Model number	Remarks
Liquid Leakage Sensing Band	**F03-16PE**	---
Sensing Band Stickers	**F03-26PES**	30 Stickers per set
	F03-26PEN	30 Stickers per set

Specifications

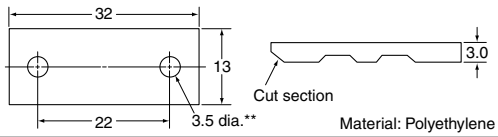
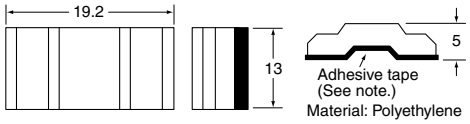
Sheath	Polyethylene
Core	SUS316 stainless steel
Ambient operating temperature	–15 to 55°C
Weight	Approx. 16 g (1 m)

Dimensions (Unit: mm)

■ Sensing Band

Appearance	
Structure	 Materials: Electrodes: SUS316 stainless steel, Sheath: Polyethylene

■ Sensing Band Stickers

	F03-26PEN (screws)	F03-26PES (adhesive tape)
Appearance		
Structure	 Material: Polyethylene	 Material: Polyethylene

Note: The shape of the adhesive tape shown above is for securing the F03-16PE.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Sensing Band

F03-16PT

- Compared to the F03-16PE (polyethylene), the F03-16PT has higher resistance to both high temperatures and chemicals.
- Small holes enable the detection of leakage even when installed upside down.

Ordering Information

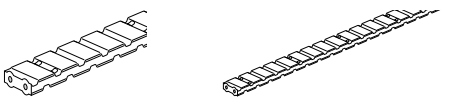
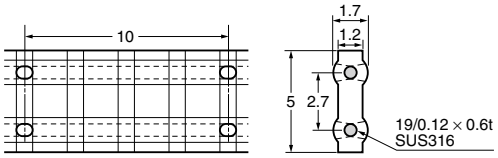
Name	Model number	Remarks
Fluoroplastic Sensing Band	**F03-16PT**	---
Fluoroplastic Sensing Band Stickers	**F03-26PTN**	10 Stickers per set

Specifications

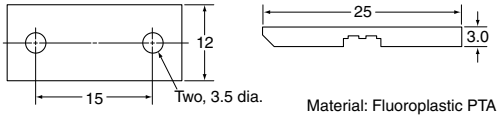
Sheath	PTFE fluoroplastic
Core	SUS316 stainless steel
Ambient operating temperature	–50 to 200°C
Weight	Approx. 16 g (1 m)

Dimensions (Unit: mm)

■ Sensing Band

Appearance	
Structure	 Materials: Electrodes: SUS316 stainless steel, Sheath: Fluoroplastic

■ Sensing Band Stickers

	F03-26PTN (screws)
Appearance	
Structure	 Material: Fluoroplastic PTA

Note: The shape of the adhesive tape shown above is for securing the F03-16PE.

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In the interest of product improvement, specifications are subject to change without notice.

Sensing Band
F03-15

- Ideal for harsh electrical room environments that are dusty and humid.
- For installation in locations requiring insulated materials.

Ordering Information

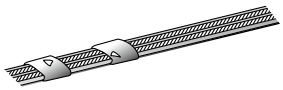
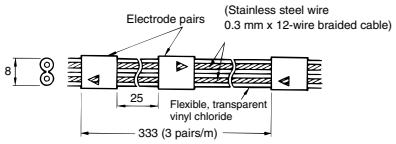
Name	Model number	Remarks
Liquid Leakage Sensing Band	**F03-15**	---
Sensing Band Stickers	**F03-25**	30 Stickers per bag

Specifications

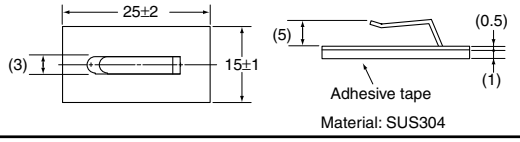
Sheath	Flexible, transparent vinyl chloride
Core	SUS304 stainless steel
Ambient operating temperature	–15 to 50°C
Weight	Approx. 48 g (1 m)

Dimensions (Unit: mm)

■ Sensing Band

Appearance	
Structure	

■ Sensing Band Stickers

	F03-25
Appearance	
Structure	

Chemical Resistivity for F03-16PE/-16PT

Material	Sheath		Core	Material	Sheath		Core
	Polyethylene	Fluoroplastic	SUS316		Polyethylene	Fluoroplastic	SUS316
Water	A	A	A	**Toluene**	C	B	B
Acetone	C	A	A	**Phenol**	B	B	A
Ammonia	A	A	A	**Butanol**	B	A	---
Ethanol	B	A	A	**Fluorine**	A	A	C
Hydrochloric acid	A	A	C	**Hexane**	C	A	---
Hydrogen peroxide solution	A	A	A	**Benzene**	C	A	A
Xylene	B	A	A	**Methanol**	B	A	A
Cyclohexane	C	A	---	**Sulfuric acid**	C	A	B
Trichloroethylene	C	A	A	**Phosphoric acid**	A	B	B

Note: 1. A: Not affected at all or only very slightly affected.
B: Slightly affected but, depending on the conditions, sufficient for use.
C: Affected but may still be used. (Replace the Sensing Band immediately after detection.)

2. The F03-16PE Sensing Band is made from the following materials.
Core: SUS316
Insulated sheath: Polyethylene

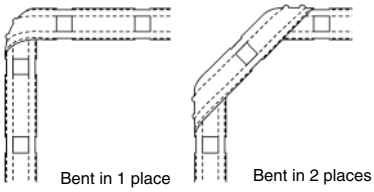
3. In order to prevent secondary fire damage, consider the effect of the atmosphere of the environment and the solution to be detected on the Sensing Band.

4. If the Sensing Band changes shape or color when a liquid is detected, replace the Sensing Band.

Connecting the Sensing Band

Bending the Sensing Band

To change the direction of the Sensing Band, bend the Sensing Band in one or two places where the core is not exposed.



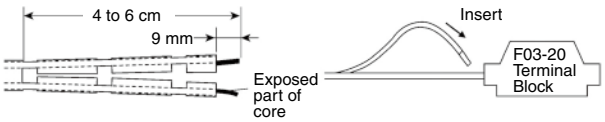
Note: Bend the Sensing Band approximately 4 cm (i.e., twice the distance between places where the core is exposed) away from places where a Sticker is attached. If the Sensing Band is bent at places further away than this, the Sensing Band may come away from the surface.

Stripping and Connecting Terminals

1. Cut into the Sensing Band approximately 4 to 6 cm in from the end as shown in the diagram below.

2. Strip away approximately the last 9 mm of the sheath to expose the core (SUS line).

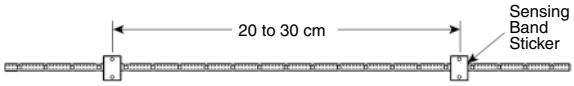
3. To connect to the Terminal Block, insert the screwdriver (see note 3) from the top of the Terminal Block and insert the stripped end of the core from the side. (Refer to *Dimensions* on page 1.)



Note: Check that the wiring is secure before using the K7L in applications.

Interval Between Stickers

When securing the Sensing Band with Stickers, attach the Stickers at intervals of 20 to 30 cm in places where the core is not exposed.



Note: 1. When using the F03-26PES (adhesive-tape model), be sure to wipe all moisture, oil, and dust from the surface to which the Sticker is to be attached. Failure to do so may result in insufficient adhesion, and the Sticker may peel away from the surface.

2. When using the F03-26PEN (screw model), before installing the Sensing Band, it is necessary to perform stud welding. For details on the pitch of the studs, refer to the information on the dimensions of Sensing Band Stickers.

3. Commercially available screwdrivers can be used. It is recommended, however, that either a 210-350/01 screwdriver or a 209-132 operating tool to connect jumpers, both manufactured by Wago Japan, is used. Contact http://www.wago.com.

Liquid Leakage Sensing Band Precautions

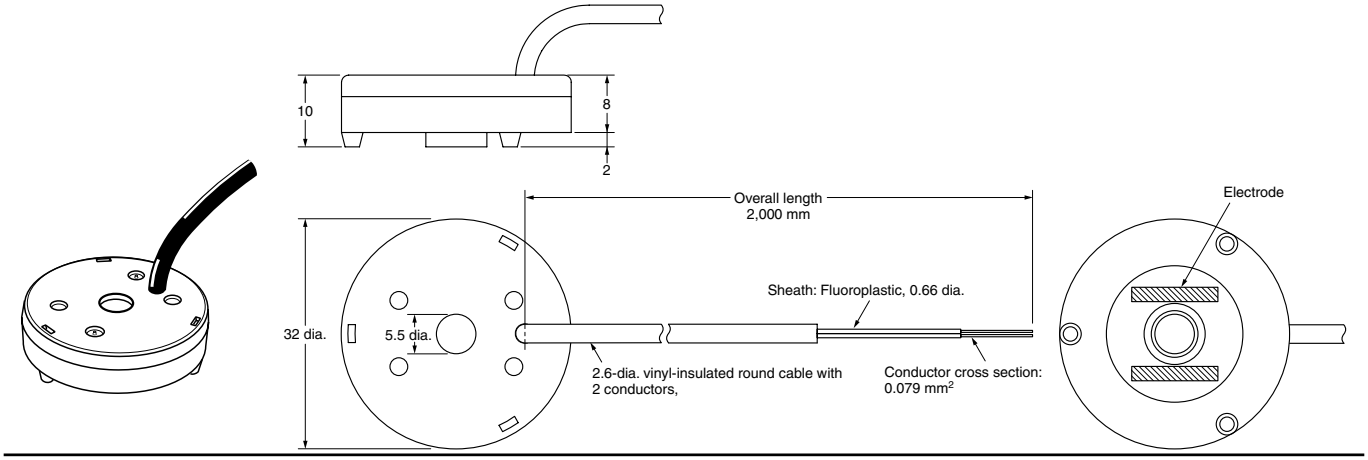
Refer to the following installation methods and install the Sensing Band securely using the proper method for the location and environment.

1. Post or Beam Mounting
   Use fasteners, such as concrete anchors, to secure the Sensing Band every 500 to 1,000 mm to ensure that it does not come loose. If the surface of the post or beam is very uneven, apply two-sided tape to the mounting surface first and then secure the Sensing Band to the tape with the fastener.
2. Conduit Installation
   For vertical conduits, wrap the Sensing Band around the conduit at a pitch 2 to 3 times the diameter of the conduit. For horizontal conduits, secure the Sensing Band at appropriate intervals along the bottom of the conduit using an insulated adhesive strap, such as Insulock, to ensure that the Sensing Band does not come loose.
3. Dike and Catch Basin installation
   Use the specified stickers (sold separately) to secure the Sensing Band at appropriate intervals to keep it flat in the dike or catch basin.
4. Floor Installation
   Estimate the leakage detection area and use stickers to secure the Sensing Band at appropriate intervals on the floor and around equipment. Cover the Sensing Band with plastic or metal molding to protect it from contact with other objects and from being stepped on by workers. Leave a 50- to 100-mm gap in the molding at approximately 500-mm intervals where it touches the floor to allow liquids to pass through.
5. Do not install the Sensing Band in locations where condensation is likely to occur.
6. Mount the Sensing Band as close as possible to the mounting surface. Make sure that any gaps are no more than 2 mm in horizontal installations, such as the floor, and no more than 1 mm with vertical installations, such as posts and beams.
7. Attach an insulated protector, such as plastic molding, securely to the Sensing Band to protect it from contact with power cables carrying over 300 V.
8. Normally leaking materials detected by the Sensing Band will evaporate and the Sensing Band will return to its original state. The Sensing Band may not return to its original state and will have to be replaced, however, if the leaking material contained conductive impurities. Follow the appropriate replacement procedures.
9. The Sensing Band is not designed to be used as electrical wiring and must not be used for any purpose other than leak detection.
10. Do not apply petroleum-based products, such as wax, to the Sensing Band. Otherwise, liquids may be repelled and detection may fail.

Dimensions (Unit: mm)

Liquid Leakage Point Sensor

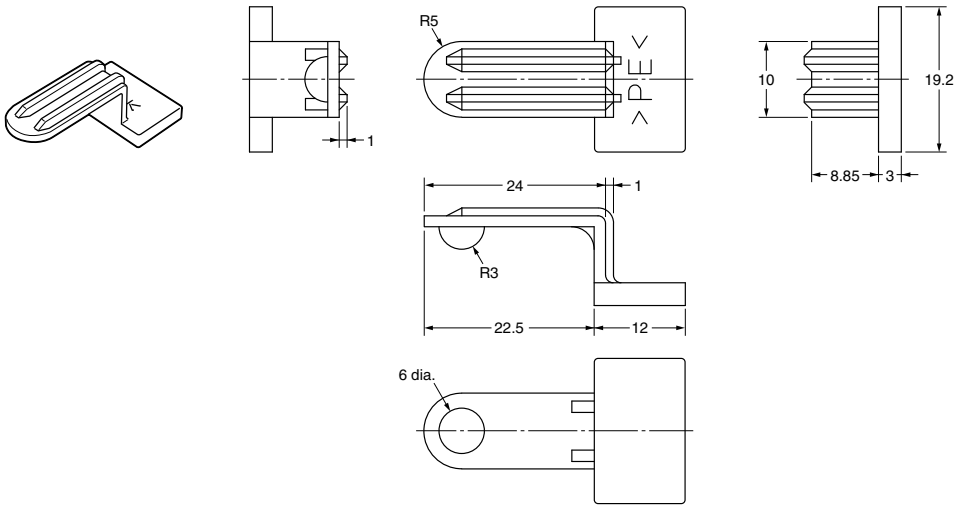
F03-16PS
F03-16PS-F



Note: 1. The Terminal Block is made of nylon 66. Mount the Terminal Block in locations not subject to liquid chemicals using M3 screws.
2. Secure the Sockets with M3 screws at a torque of 0.78 to 1.18 N·m.

Point Sensor Mounting Bracket

F03-26PS



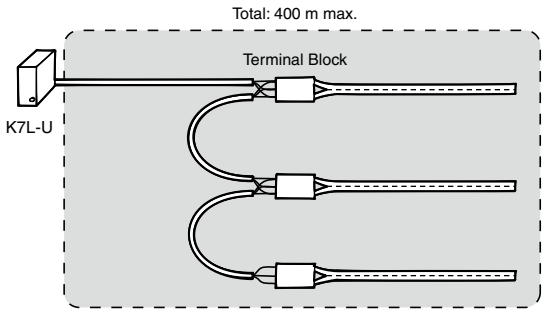
FAQs

Some questions that are frequently asked about the K7L are given below. Use this information when selecting a model.

Can one K7L Amplifier be used for detection in more than one place?

Yes.

By using Terminal Blocks to connect Sensing Bands in parallel, detection can be performed in more than place with only one K7L Amplifier.



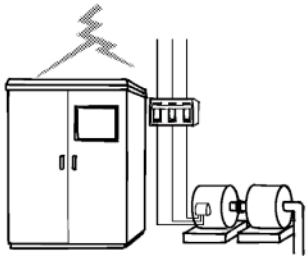
Note: 1. When wiring, be sure not to exceed the maximum possible wiring distances for both the connecting cable and the Sensing Band. Exceeding these distances may lead to faulty operation. Connect one Sensing Band to each Terminal Block.

2. Not applicable to the K7L-UD.

Can the K7L Amplifier be used as a replacement for the 61F-GPN-V50 Water Leakage Detector?

Yes.

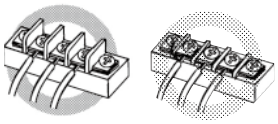
Because the surge withstand capability is different, however, do not use in locations where it will be exposed to impulses and surges, such as outdoor roofs or in pump panels. Also, items such as the power supply voltage and the connection sockets are different. Check these items before application.



Can a different terminal block (e.g. a commercially available terminal block or a terminal block constructed by the user) be used instead of the one provided?

Yes.

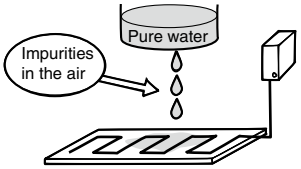
When using another terminal block, however, be sure to check that all the terminals are mutually isolated, and that there is no danger of ground faults in connecting cables or Sensing Bands.



Can the K7L Amplifier detect pure water?

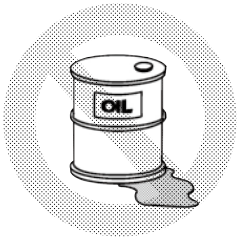
Yes.

Even pure water, which has a resistance exceeding 10 MΩ·cm, can nearly always be detected if the K7L is used at its maximum sensitivity. This is because impurities are mixed with the water when it is leaked and the resistance drops.



Can the K7L Amplifier detect oil?

No.



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Liquid Leakage Point Sensor
F03-16PS

A New Liquid Leakage Point Sensor Has Been Added to the K7L Series. Fluoroplastic Coating on the Bottom Electrode Ensures Chemical Resistance.

- Can be used in conjunction with Sensing Bands.
- Stud screw mounting requires no tools for installation.
- No tools means the Sensor can be wiped clean quickly and easily.
- The optional Mounting Bracket enables faster installation than three-screw mounting.
- Connect multiple Sensors to one K7L Amplifier for significant cost savings.

Ordering Information

Sensors

Product name	Main material	Cable material	Electrode material	Model
Liquid Leakage Point Sensor	Polyethylene	Outer sheath: PVC Inner sheath: Fluoroplastic	SUS304	**F03-16PS**
			SUS304 and fluoroplastic coating	**F03-16PS-F**
Mounting Brackets (See note 1.)		---	---	**F03-26PS**
Terminal Block (See note 2.)	Nylon 6.6	---	---	**F03-20**

Note: **1.** Use a commercially available bonding agent for PVC. One bag contains 10 Brackets.
2. One bag contains 10 Blocks.

Amplifier

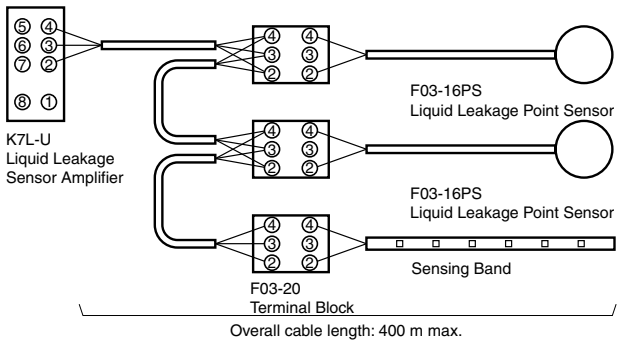
Product name	Model
Liquid Leakage Sensor Amplifier	K7L-U

Specifications

Material	**Sensor Amplifier**	Polyethylene
	Conductor	Outer sheath: PVC, Inner sheath: Fluorine resin
	Core	F03-16PS: SUS304 stainless steel F03-16PS-F: SUS304 and fluorine coating
Ambient operating temperature range		–10 to 60°C
Weight		Approx. 30 g
Maximum number of Point Sensors connected per Amplifier		Any number up to an overall cable length of 400 m.
Applicable Amplifier		K7L-U (excluding Liquid Leakage Sensor Amplifier with disconnection detection function)

Wiring Diagram

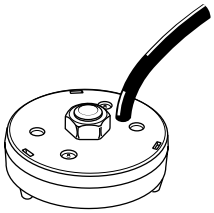
Any number of Sensors can be connected in parallel up to an overall cable length of 400 m. Leakage areas cannot be specified with the K7L.



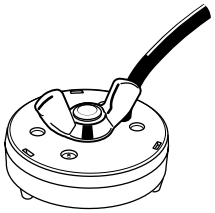
Mounting Methods

Stud Screw Mounting

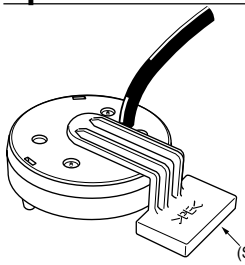
Securing the Sensor with a Nut



Securing the Sensor with a Wing Nut



Special Bracket Mounting



Note: Use a commercially available bonding agent for PVC.

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Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

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