

# Water Leak Detector 61F-GPN-V50

CSM\_61F-GPN-V50\_DS\_E\_5\_5

## Flexible Setup according to Water Quality and Surrounding Wiring Conditions

- The operating resistance has a variable sensitivity from 0 to 50 kΩ, so the best set values can be made according to the predicted water leakage, degree of overflow, water quality, or surrounding wiring conditions.
- The power supplied to the Sensing Band is 24 VAC, so operation is stable because there is no electrode deterioration from electrical corrosion.
- A contact signal output enables monitoring from remote locations.



[Reference]

For detecting leakage of water with high resistivity, use K7L-U/-UD ultra high-sensitivity models.

 Refer to *Safety Precautions for Floatless Level Controllers*.

## Ordering Information

|                     |             |
|---------------------|-------------|
| Water Leak Detector | 61F-GPN-V50 |
|---------------------|-------------|

When ordering, to complete the part number, be sure to specify the desired operating voltage.

Example: 61F-GPN-V50 [120/240 VAC]

\_\_\_\_\_ Desired supply voltage

## Specifications

### ■ Ratings/Characteristics

| Item                    | Water Leak Detector                                                                          |
|-------------------------|----------------------------------------------------------------------------------------------|
| Model                   | 61F-GPN-V50                                                                                  |
| Supply voltage          | 24, 110, 120, 220, 230, 240 VAC                                                              |
| Operating voltage range | 85% to 110% of rated voltage                                                                 |
| Interelectrode voltage  | 24 VAC                                                                                       |
| Operating current       | 3 mA (AC) max.                                                                               |
| Power consumption       | 3.2 VA max.                                                                                  |
| Sensitivity             | Variable (0 to 50 kΩ)                                                                        |
| Sensitivity error       | Scale 0: 0 to 10 kΩ *<br>Scale 50: 50 ±10 kΩ                                                 |
| Contact ratings         | 3 A 250 VAC, DPDT cosφ=1<br>1 A 250 VAC, DPDT cosφ=0.4                                       |
| Indicator               | Provided (Operation indicator)                                                               |
| Alarm buzzer            | Not provided                                                                                 |
| Test switch             | Not provided                                                                                 |
| Ambient temperature     | −10 to 50°C                                                                                  |
| Ambient humidity        | 45% to 85%                                                                                   |
| Accessories             | Hold-down clip PFC-N8                                                                        |
| Approved standards      | UL508<br>CSA C22.2 No.14<br>EN61010-1<br>EN61326-1<br>Industrial electromagnetic environment |

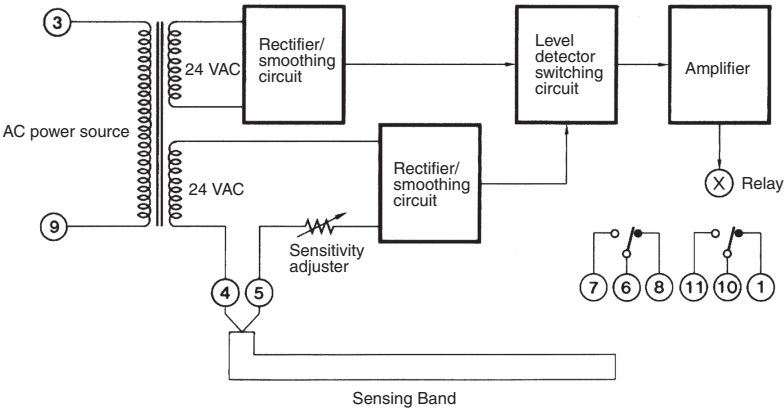
\* The Detector may not operate around the setting value of "0." Adjust the sensitivity depending on the actual application.

# Operation

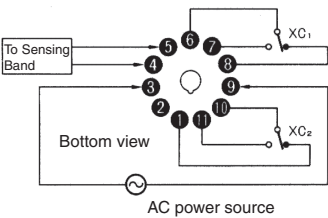
## Internal Circuit

### Connections

61F-GPN-V50 Water Leak Detector



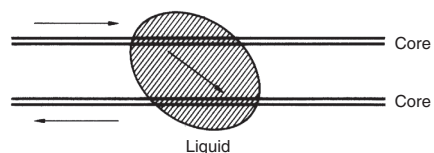
61F-GPN-V50 Water Leak Detector



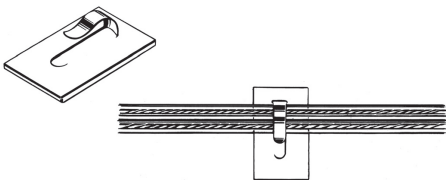
## Operating Principle

When the two conductive cores of the Sensing Band are contacted by a liquid, a weak alternating current (as small as 3 mA max.) flows across the cores. This current is amplified to operate a relay.

In practice, leakage will be detected if water drops are present between the core wire and the Electrode (F03-15 Sensing Band) or detecting section (F03-16PE Sensing Band). (Refer to the specifications on page 4)



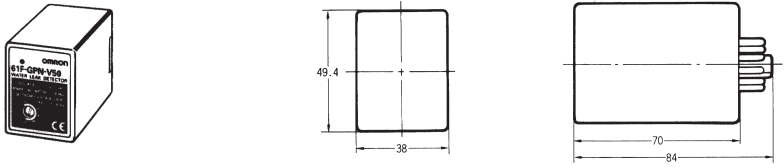
## Sensing Band Protective Cover

| Item          | F03-25                                                                                                                                                        | F03-26PES                                                                                                                                                       |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appearance    |                                                                              |                                                                               |
| Suggested use |                                                                                                                                                               |                                                                                                                                                                 |
| Construction  |                                                                              |                                                                              |
| Comments      | Secures the F03-15 Sensing Band to the floor surface. Attach the sticker on a smooth surface. To attach it on a concrete floor, use a concrete bonding agent. | Secures the F03-16PE Sensing Band to the floor surface. Attach the sticker on a smooth surface. To attach it on a concrete floor, use a concrete bonding agent. |

Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

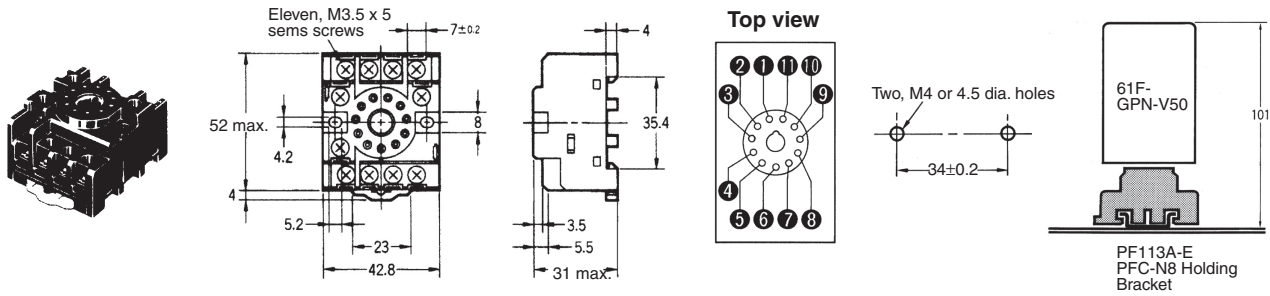
61F-GPN-V50 Water Leak Detector



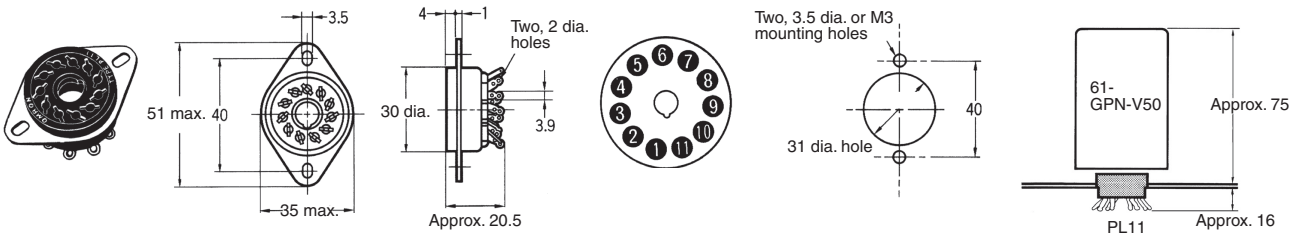
■ Accessories (Order Separately)

Connecting Sockets (for 61F-GPN-V50 Water Leak Detector)

PF113A-E Track-mounted Socket



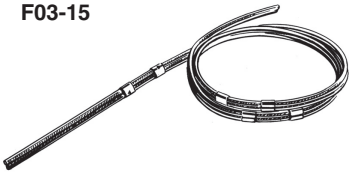
PL11 Back-connecting Socket



**Important:** Install the Water Leak Detector socket with the keyway facing down.

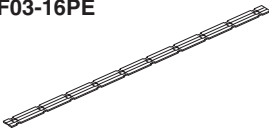
Sensing Band

F03-15

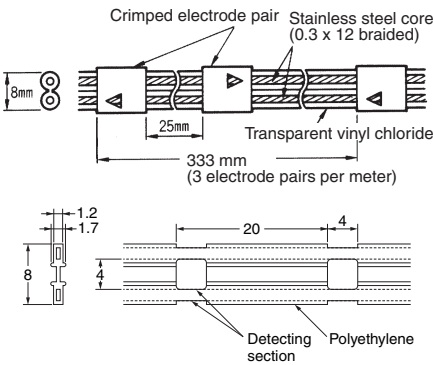


Sheath: Transparent vinyl chloride  
Core: Stainless steel SUS304

F03-16PE



Sheath: Transparent vinyl chloride  
Core: Stainless steel SUS316



# Safety Precautions

## ⚠ WARNING

Do not touch the terminals while power is being supplied. Doing so may possibly result in electric shock. Make sure that the terminal cover is installed before using the product.



## ⚠ CAUTION

Do not attempt to disassemble, repair, or modify the product. Doing so may occasionally result in minor or moderate injury due to electric shock.



## ■ Precautions for Safe Use

- (1) Use only F03-15 or F03-16 Sensing Band. Other water conductors may cause the Water Leak Alarm/Detector to malfunction, or not operate at all because of mismatched sensitivity.
- (2) Place the Sensing Band at a location where water leakage is most likely to occur. For example, consider the following locations:
  - Under a raised floor; on the highest floor of a building; on the ceiling
  - In the vicinity of an air conditioner, or on the floor near a humidifier
  - On the floor near a feed-water pipe, conduit; hot-water pipe.
  - On top of a power, or control panel
- (3) Secure the Sensing Band so that they touch the floor surface or the wall near a pipe arrangement. Cover the Sensing Band with a F03-25 or F03-26 Protective Cover if they are installed at a location crowded with people. However, place the cover such a manner that water can easily reach the Sensing Band.
- (4) Keep the temperature at the installation site to within 55°C. Do not install the Water Leak Alarm/Detector/Sensing Band in the proximity of heat-generating equipment (such as that having a coil or wire winding). Also, do not use it in a highly humid location, or at a location that is subjected to corrosive gases. Do not place the Water Leak Alarm/Detector side-by-side with a high-capacity contactor that produces an inrush current when it operates, as such arrangement may cause chattering to occur, consequently causing a malfunction of the Water Leak Alarm/Detector.
- (5) Wiring distance of the Sensing Band varies depending on the water quality. When using IV cables, wire the Sensing Band to the length specified in the following table.
- (6) Mount the 61F-WLA Water Leak Alarm/Detector on a sturdy wall surface which is not subjected to vibration or shock. Do not use double-sided adhesive tape, otherwise, the Detector may detach when the adhesive tape deteriorates due to aging.
- (7) When wiring the Sensor on conductive objects like metal objects, use the F03-16.
- (8) When measuring insulation resistance, do not conduct a megger test between the electrode terminals.

| IV Cable     | Sensing Band |
|--------------|--------------|
| 0 m          | 200 m        |
| 10 to 150 m  | 150 m        |
| 200 to 300 m | 100 m        |
| 350 to 400 m | 50 m         |

**Note:** IV cable: 2 mm<sup>2</sup>

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.

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