

# Liquid Leakage Sensor Amplifiers K7L Series

## Reliable Sensitive Liquid Sensors for Stable Detection of Liquid Chemicals with Low Conductivity and Water Leakage

- A lineup of new models compatible with Push-In Plus Terminal Block Sockets is available.
- UL listed when used with Push-In Plus Terminal Block Sockets.
- Sensor disconnection detection (K7L-AT50D□□/-UD□□).
- Models for long-distance wiring to 400 m.
- Ribbon Electrode Bands and Point Sensors available.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

## Model Number Legend

**K7L-**□□□□ □ □  
(1) (2) (3)

(1)		(2)				(3)	
Symbol	Meaning	Symbol	Meaning	Output		Symbol	Meaning
				NPN connection	PNP connection (Equivalent)		
AT50	Standard wiring distance	Blank	No sensor disconnection detection	OK	OK	Blank	For Screw Terminal Block Socket
U	Long wiring distance	D	Sensor disconnection detection	OK	NG	B	For Push-In Plus Terminal Block Socket
		DP	Sensor disconnection detection Supports plus common connection	NG	OK		

Wiring distance	Disconnection detection	Socket terminals (#1)	Standards	Model
Standard usage Wiring cable: 50 m max. Sensing Bands: 10 m max.	Not supported.	Screw Terminal Block P2RF-08/-08-E	CE	K7L-AT50
		Push-In Plus Terminal Block P2RF-08-PU	CE     (*2) (*3)	K7L-AT50B
	Supported.	Screw Terminal Block P2RF-08/-08-E	CE	K7L-AT50D
		Push-In Plus Terminal Block P2RF-08-PU	CE     (*2) (*3) CE     (*2)	K7L-AT50DB K7L-AT50DPB
Long distance use Total Length of Wiring Cable and Sensing Bands: 400 m max.	Not supported.	Screw Terminal Block P2RF-08/-08-E	CE	K7L-U
		Push-In Plus Terminal Block P2RF-08-PU	CE     (*2) (*3)	K7L-UB
	Supported.	Screw Terminal Block P2RF-08/-08-E	CE	K7L-UD
			CE	K7L-UDP
		Push-In Plus Terminal Block P2RF-08-PU	CE     (*2) (*3)	K7L-UDB
			CE     (*2)	K7L-UDPB

\*1. The applicable models of the K7L depend on the model of the Socket. If the correct Socket is not used, the K7L nameplate will be upside down.  
 \*2. The UL listing applies only when the Sensor is used in combination with a Push-In Socket (P2RF-08-PU). By itself, the K7L is UL recognized.  
 \*3. Korean S-mark certification pending.

# K7L-AT50□/AT50D□□

## Reliable Detection of a Wide Variety of Liquids Ranging from Water to Liquid Chemicals with Low Conductivity. Four Sensing Ranges Available.

- A lineup of new models compatible with Push-In Plus Terminal Block Sockets is available.
- Series of plus common connection compatible products added.
- UL listed when used with Push-In Plus Terminal Block Sockets. \*1
- Provides stable detection of liquids with impedance as high as 50 MΩ using inter-electrode resistance detection. Detection of IPA and pure water possible.
- Higher noise immunity with a noise canceller circuit connected to a 3-conductor cable.
- Prevents electrode corrosion with an AC detection method.
- The power supply circuit and detection circuit are isolated, allowing several Amplifiers to be installed in the same place.
- After a disconnection is detected, operating status is held to eliminate instability due to contact of the disconnected part. \*2
- Series includes an Explosion-proof Barrier (Sold Separately) to enable usage in hazard atmospheres.
- CE Marking and UL/CSA certification. \*3



\*1. The UL listing applies only when the Sensor is used in combination with a Push-In Plus Terminal Block Socket (P2RF-08-PU).

By itself, the K7L is UL recognized.

\*2. For the K7L-AT50D.

\*3. UL/CSA           UL 508  
 CAN/CSA       C22.2 No.14  
 CE:   EMI   EN 55011  
       EMS   EN 61000-6-2

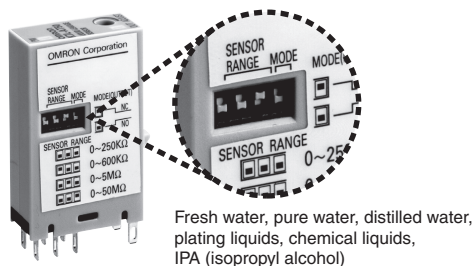
Refer to Safety Precautions on page 10.

## Features

Sensing Bands boast high degree of chemical resistance. The K7L can be used in a wide range of applications, from semiconductor production installations to food-processing equipment.

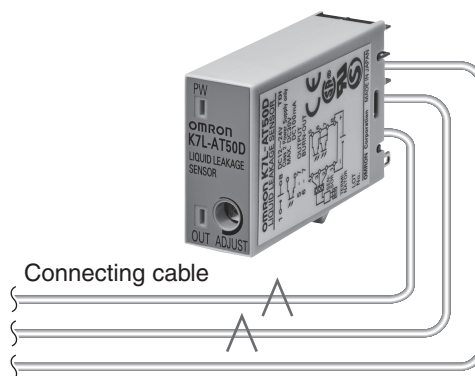
### Inter-electrode Resistance Detection

Stable detection of liquids with impedances of up to 50 MΩ and common water. Four sensing ranges are available, ensuring detection suited to the application.



### Noise Canceller Function (Patent Pending)

The K7L incorporates a noise canceller circuit that uses a 3-conductor cable, ensuring a high level of noise immunity.



### AC Detection Method

The K7L internally oscillates AC signals provided to the Sensing Band, protecting the Sensing Band from electric corrosion and ensuring safe operation.

