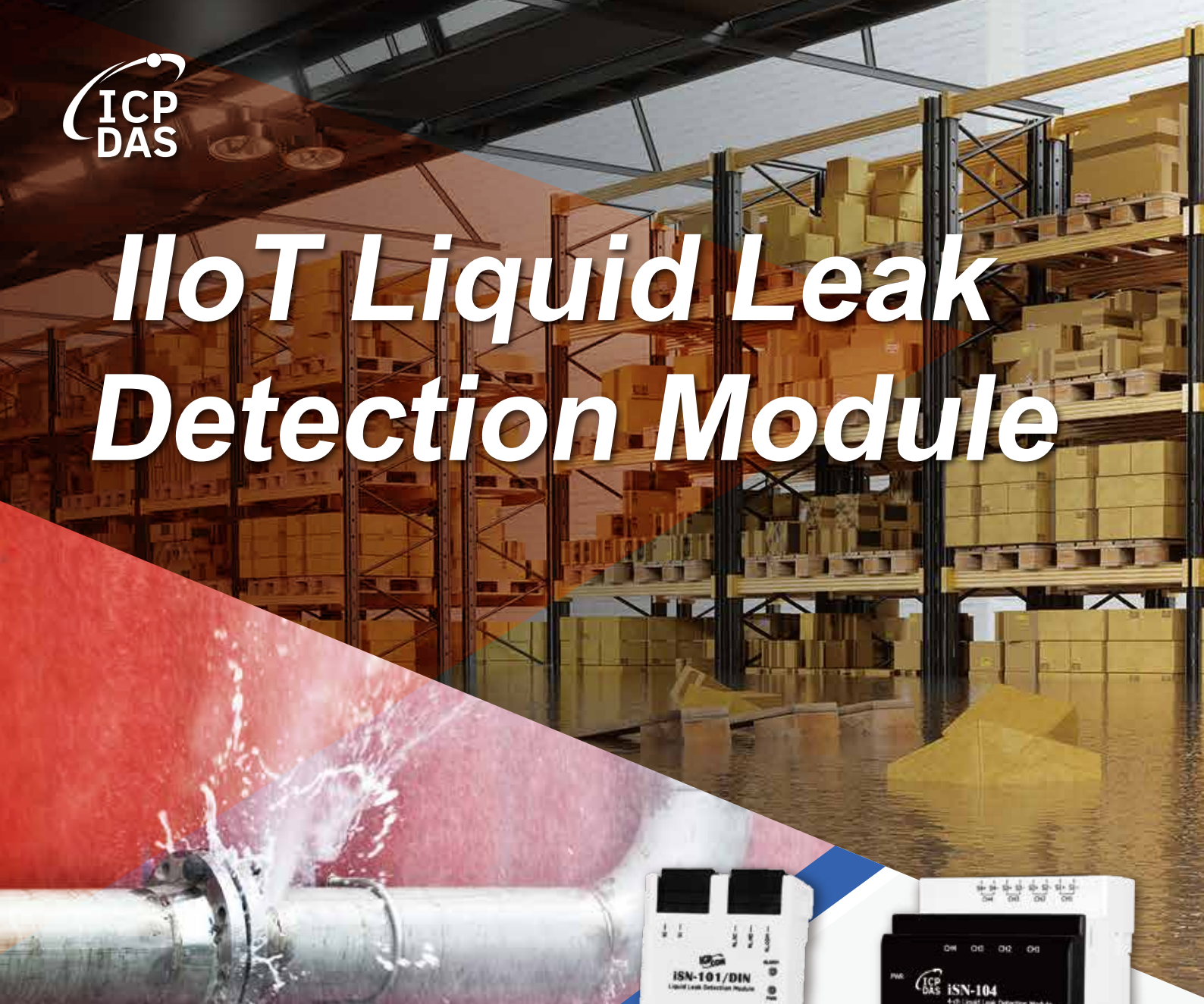
IIoT Liquid Leak Detection Module







iSN-101 Series

iSN-104 Series



- iSN-101/S2/DIN
  (iSN-101+CA-LLD-DC100)
- iSN-101/S3
  (iSN-101+CA-LLD-DP100)

- 1-channel / 4-channel Liquid Leak Detection
- Real-time Alarm Function
- Adjustable Liquid Detection Sensitivity
- Detection Distance up to 500 Meters
- Supports DCON/Modbus RTU/Modbus TCP Communication Protocols

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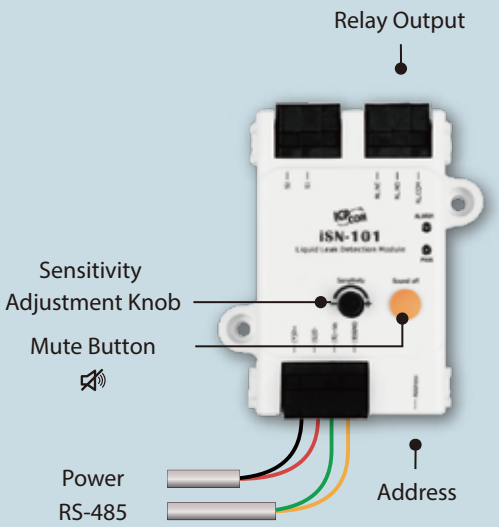
Specifications

Small leaks can cause big problems ranging from equipment downtime and damage to industrial safety issues. If leaks are detected in time, many losses and problems can be avoided. The ICP DAS's liquid leak detection module can detect liquid leakage and pipeline rupture, as well as send real-time alarm messages to reduce losses that may be caused by liquid leakage.

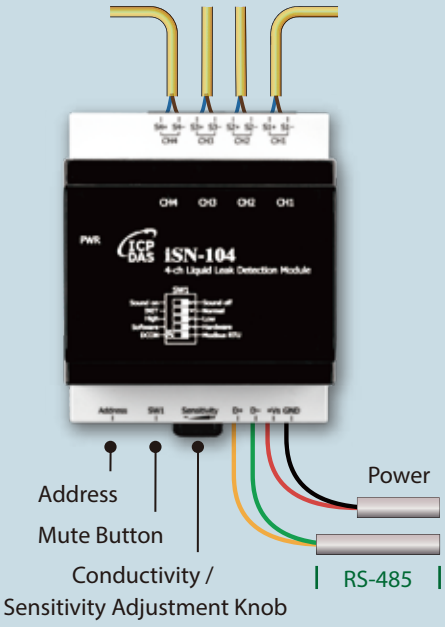
Detectable Liquids



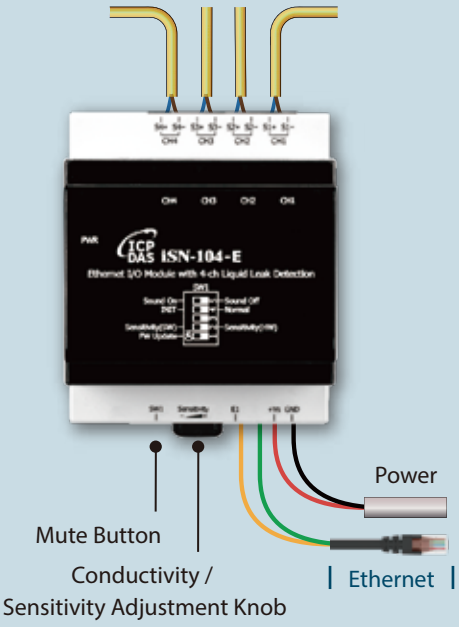
Alcohol Juice Beer Milk Water



iSN-101 Series (1-channel)



iSN-104 (4-channel)

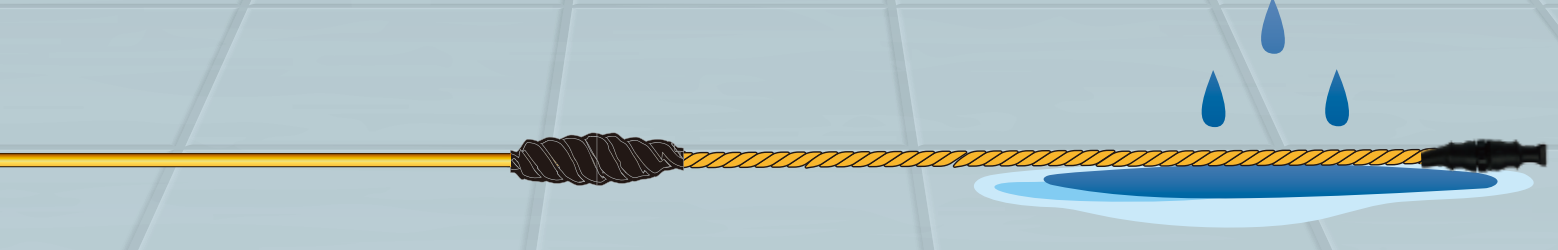


iSN-104-E (4-channel)

Liquid Leak Detection Module	iSN-101 Series	iSN-104	iSN-104-E
Channels	1	4	4
Relay Output	YES	NO	NO
Max Cable Length(Includes detection cable and signal cable)	500 meters	500 meters	500 meters
Installation Method	Wall / DIN-Rail Mounting	DIN-Rail Mounting	DIN-Rail Mounting
Communication Interface	RS-485	RS-485	Ethernet/PoE



Water pipe Fire hydrant Sewage pipe Household water Industrial wastewater

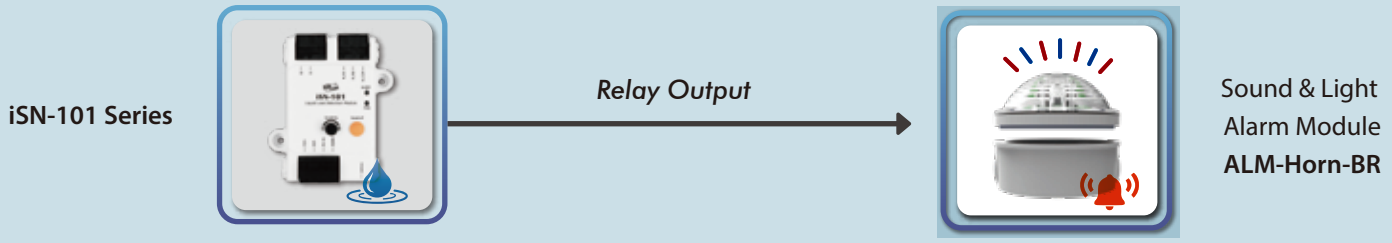




Alarm Mode

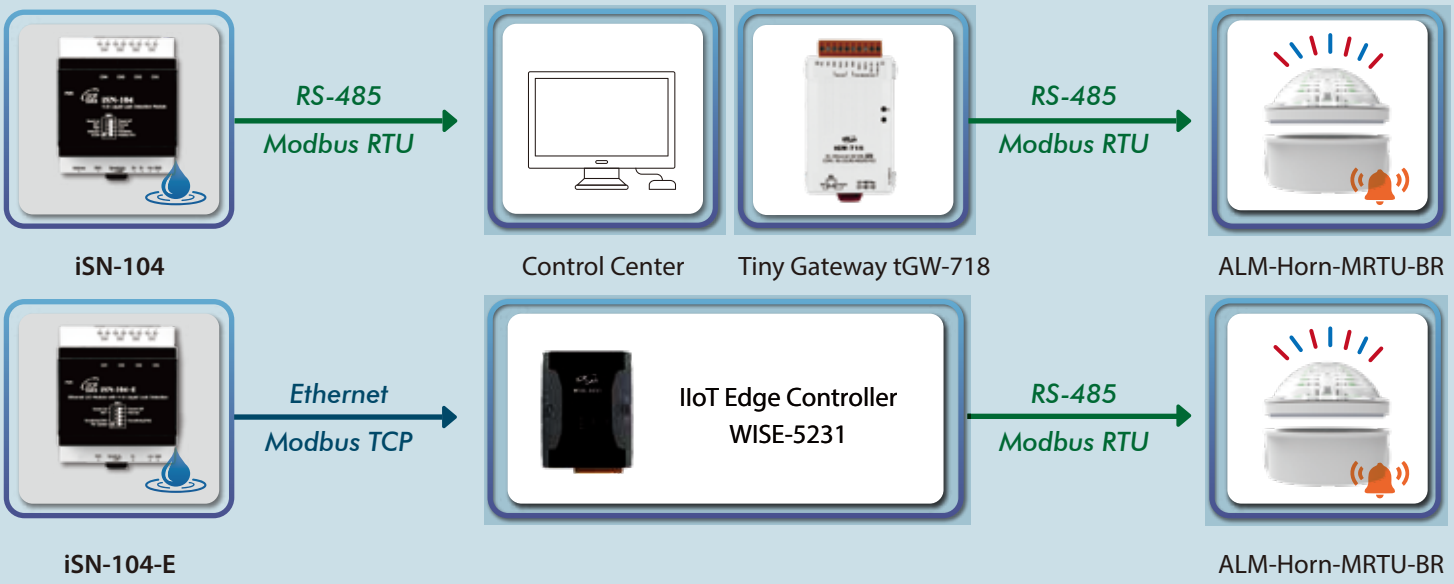
iSN-101 Series

The liquid leak detection module has a real-time alarm function, which can send an alarm through **the relay output** to notify the on-site personnel.



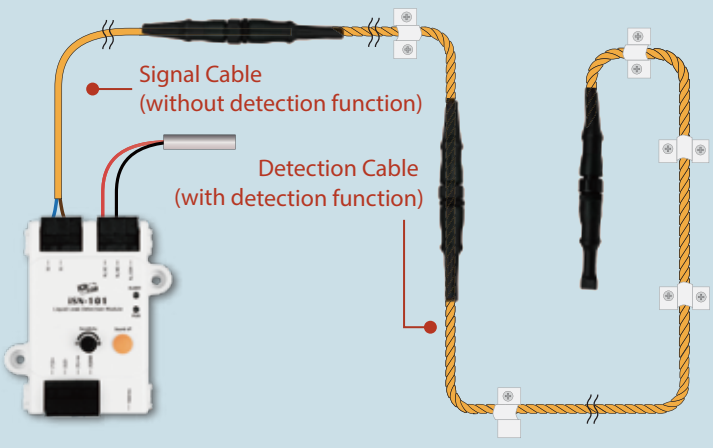
iSN-104 Series

When liquid leakage is detected, an alarm signal can be sent through **the WISE IIoT edge controller** or **the control center**.

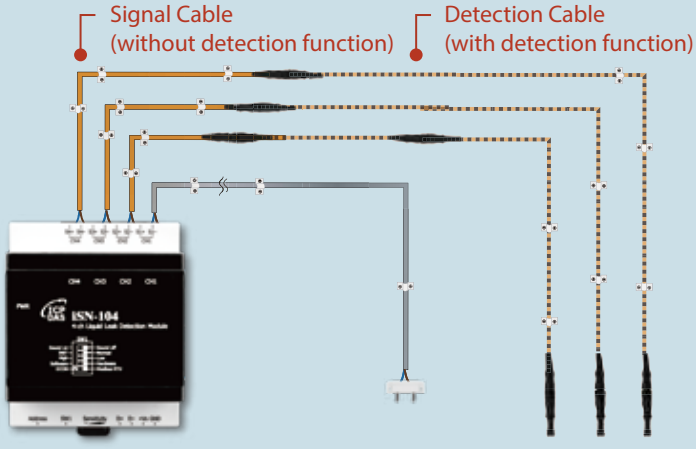


Detection Distance up to 500 Meters

ICP DAS provides two different cables for use with iSN series modules. The detection cable with **detection function** and the signal cable **without detection function** can be used together to extend the signal transmission distance. The longest measurement distance can be up to 500 meters, and a suitable combination of cables can be used according to the detection needs.



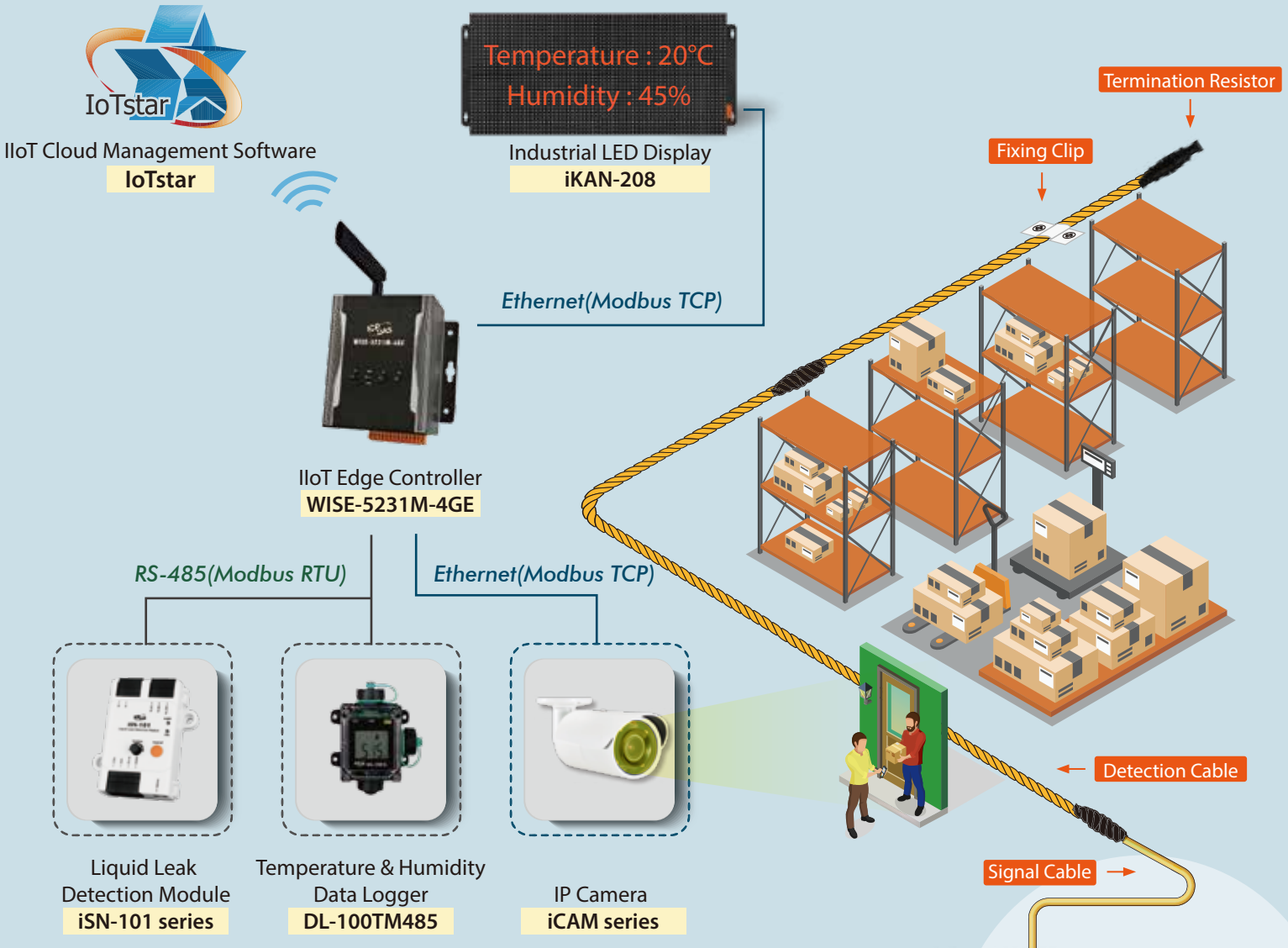
iSN-101 Series (1-channel)



iSN-104 Series(4-channel)

Warehouse Environmental Monitoring

ICP DAS provides customers with a complete remote monitoring system for warehouses. iSN series modules can assist in monitoring liquid leakage problems. Once liquid leakage is detected, an alarm will be issued immediately. The information will be sent to the SCADA system of the control center through the WISE controller to realize remote monitoring. In addition, ICP DAS's DL series modules can monitor the temperature and humidity of the environment. They will show the detected temperature and humidity on the iKAN industrial display in the field to help operators monitor the warehouse status at any time.



ICP DAS's WISE series controller and IP camera monitoring system can be used to monitor the entrances and exits. The WISE controller allows I/O modules two-way interaction with the camera. Once the camera detects the movement of people or objects, it will take pictures and make the event record. Then the event record will be sent to the control center. The warehouse remote monitoring system can also be used in the environmental monitoring of the data center.



Liquid Leak Detection Module
iSN-101 series

Recommended Products



Temperature & Humidity Data Logger
DL-100TM485



IIoT Edge Controller
WISE-5231M-4GE



Industrial LED Display
iKAN-208

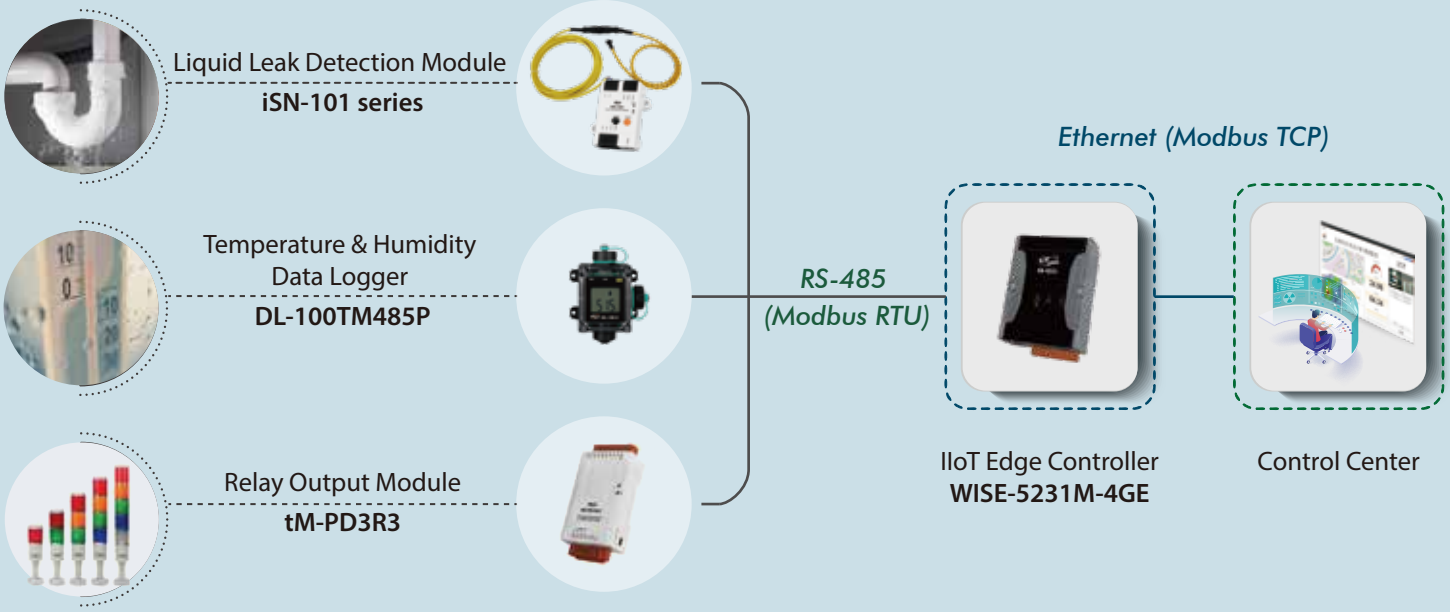


IP Camera
iCAM series

IIoT Cloud Management Software
IoTstar

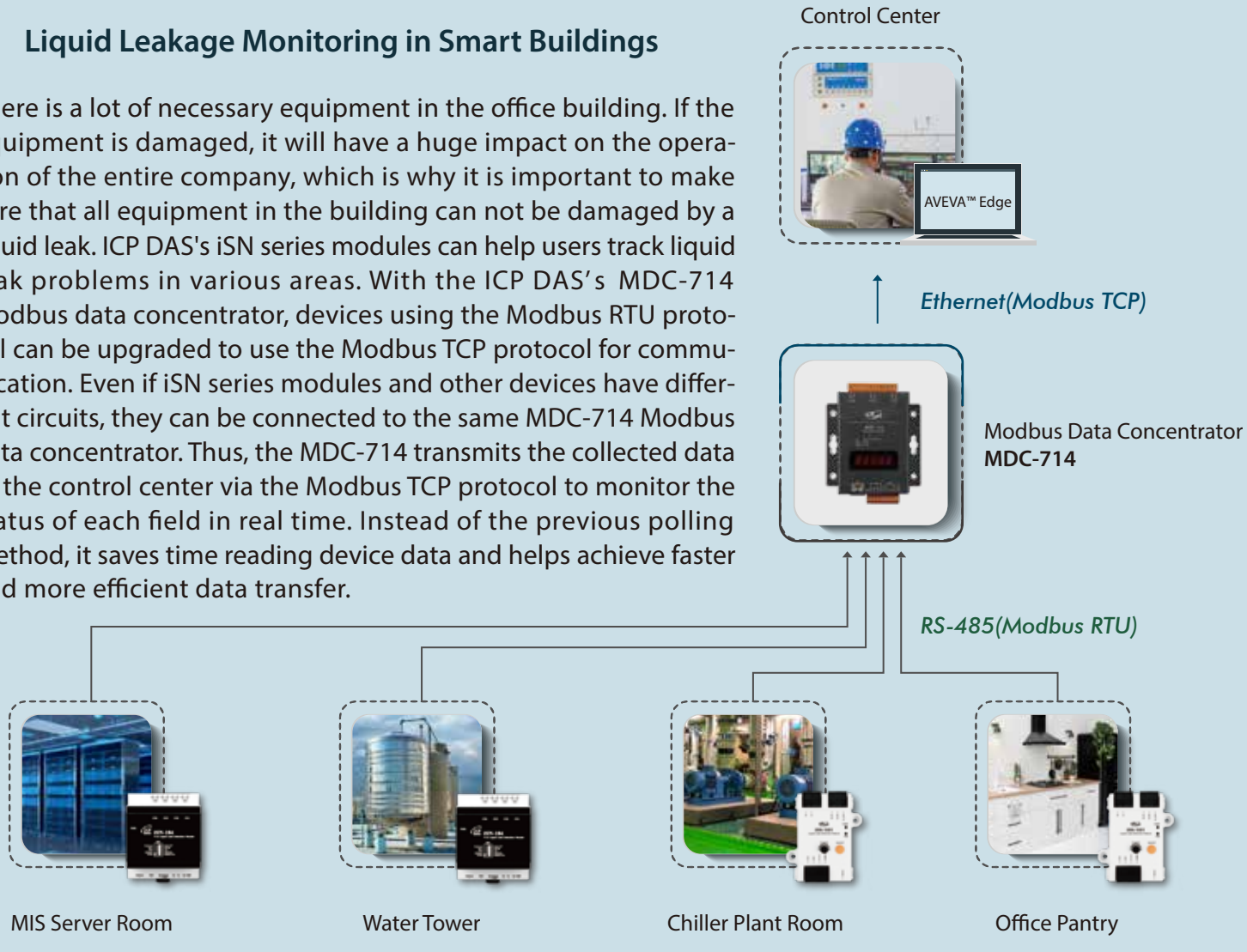
Liquid Leakage Monitoring in Clean Rooms

Semiconductor manufacturers are engaged in the manufacture of high-tech products, and their production lines are all located in clean rooms. Therefore, the environment in clean rooms must be strictly controlled. During the production process, each chip needs to be rinsed with pure water to remove debris generated during the manufacturing process. Due to the frequent leakage of pure water, the floor will accumulate moisture, causing the production equipment or production line to stop, resulting in great losses. When a leak occurs, through the ICP DAS's iSN series liquid leak detection module, leak data can be sent to the WISE-5231 edge controller via Modbus RTU. The data will then be sent back to the control center via Modbus TCP so that the management personnel can be notified as soon as possible to avoid the loss of surrounding machines or equipment due to leakage.



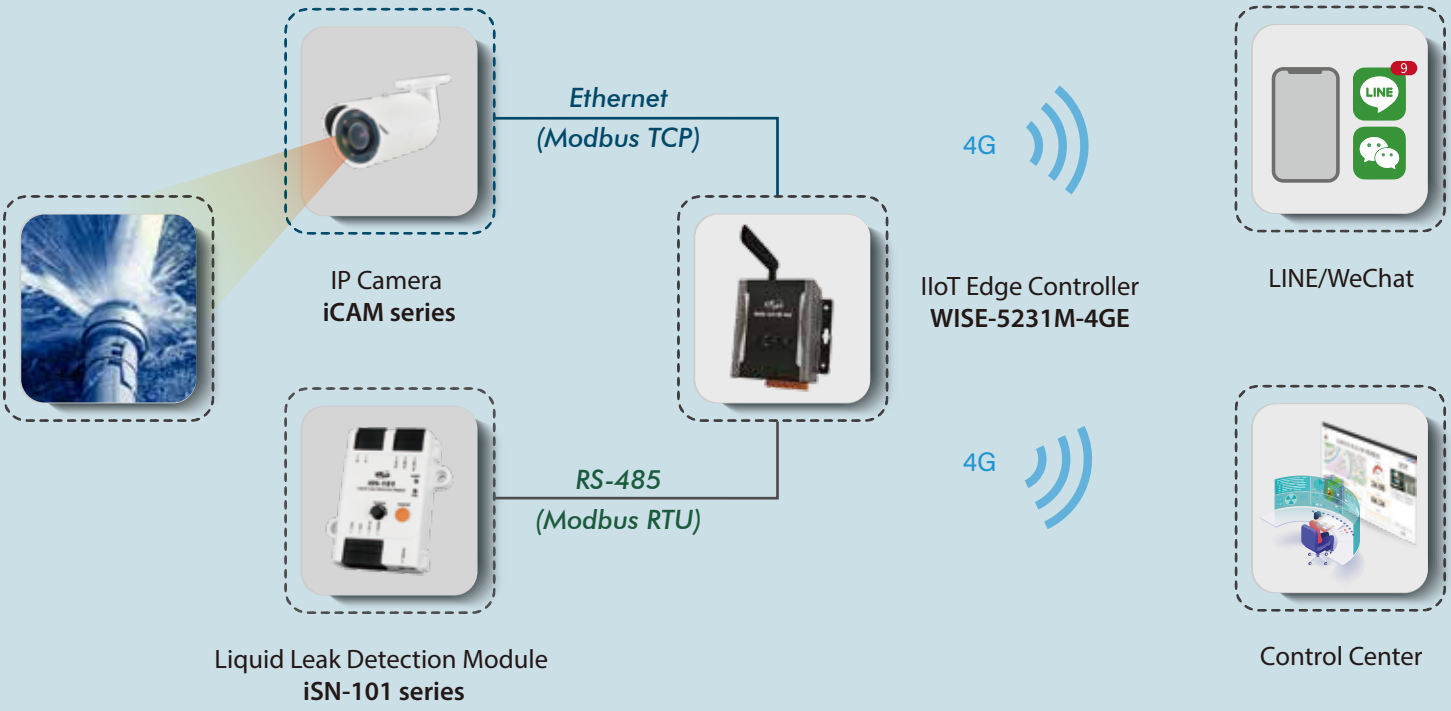
Liquid Leakage Monitoring in Smart Buildings

There is a lot of necessary equipment in the office building. If the equipment is damaged, it will have a huge impact on the operation of the entire company, which is why it is important to make sure that all equipment in the building can not be damaged by a liquid leak. ICP DAS's iSN series modules can help users track liquid leak problems in various areas. With the ICP DAS's MDC-714 Modbus data concentrator, devices using the Modbus RTU protocol can be upgraded to use the Modbus TCP protocol for communication. Even if iSN series modules and other devices have different circuits, they can be connected to the same MDC-714 Modbus data concentrator. Thus, the MDC-714 transmits the collected data to the control center via the Modbus TCP protocol to monitor the status of each field in real time. Instead of the previous polling method, it saves time reading device data and helps achieve faster and more efficient data transfer.



Liquid Leakage Monitoring in Plant Room

The plant room houses a lot of important equipment. However, in the event of a leak in the plant room, the equipment can be damaged, resulting in the loss of important data, power outages, and other problems. By combining ICP DAS's iSN series modules with WISE edge controllers and iCAM series network cameras, a real-time remote monitoring system can be established. The built-in IF-THEN-ELSE statement of the WISE edge controller can make logical judgments based on the information sent by the iSN series modules. When a water accumulation problem is detected, the iCAM series network cameras on the field side will be activated to take pictures in the plant room and then send the images to the control center. The system will also send images to management personnel via communication apps (LINE/WeChat).

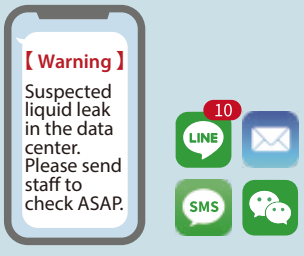


Intelligent Liquid Leak Monitoring Solution

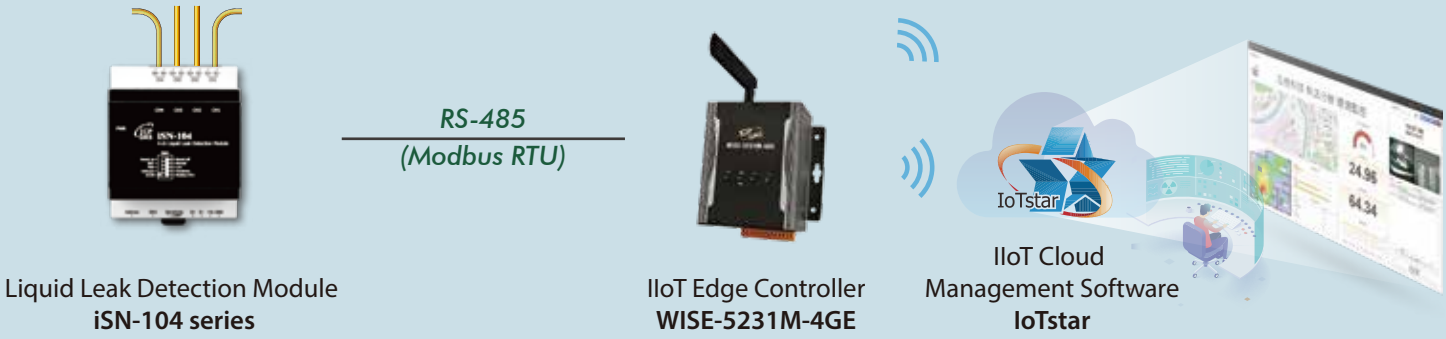
- Simple and Centralized Management
- Access Control Anytime and Anywhere
- Built-in Management and Redundancy



With the help of the WISE IIoT edge controller and IoTstar IIoT cloud management software, users can remotely configure and manage the iSN series liquid leakage modules through a web interface. Using this structure, the management personnel can program the iSN series modules according to the Modbus RTU protocol and set various addresses through the module to realize the Modbus RTU communication. When a liquid leak is detected, the WISE edge controller will automatically send alert messages and SMS notifications, thereby realizing the real-time remote control function.



▲ SMS notification example



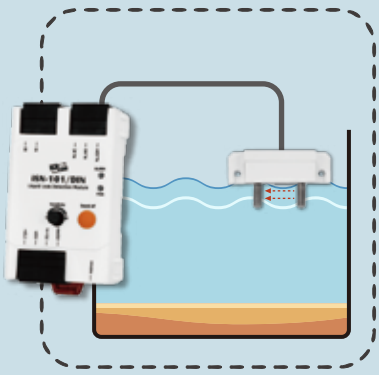
iSN Series Liquid Leak Detection Module

ICP DAS offers two types of leak detectors: **detection probe** and **detection cable**. Both detectors can be used with the ICP DAS's iSN series liquid leak detection module. They can also be applied in various fields according to the needs of customers.

Liquid Leak Detection Probe







- ✓ **Can** detect specific location.
- ✓ **Can** detect specific water level.

The liquid leakage detection probe is designed to detect liquid leakage at a **specific location** or **water level**. The liquid must touch both probes at the same time to trigger an alarm.

Liquid Leak Detection Cable

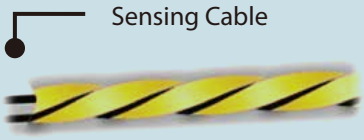


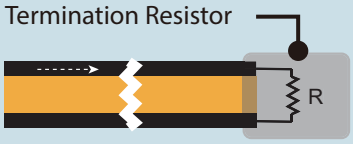
- ✓ Disconnection detection function **provided.**
- ✓ Connection of multiple detection cables **supported.**



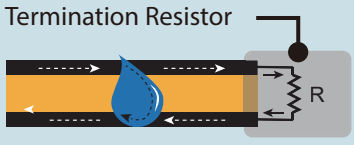
- X Disconnection detection function is **not provided.**
- X Connection of multiple detection cables is **not supported.**







Disconnection detection alarm



Disconnection detection alarm

The liquid leak detection cable can be used to detect leaks over **large areas**. The liquid leak detection cable contains two sensing cables, and the liquid must touch both sensing cables at the same time for the alarm to be triggered.

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Selection Guide

Model	Installation Method	Signal Cable	Detection Cable	Detection Probe	Channels	Communication Interface	Operating Temperature
iSN-101	Wall Mounting	-	-	-	1	RS-485 (Modbus RTU, DCON)	-25 °C ~ +75 °C
iSN-101/DIN	DIN-Rail Mounting	-	-	-			
iSN-101/S	Wall Mounting	3 m	1 m	-			
iSN-101/S/DIN	DIN-Rail Mounting	3 m	1 m	-			
iSN-101/S2	Wall Mounting	3 m	3 m	-			
iSN-101/S2/DIN	DIN-Rail Mounting	3 m	3 m	-			
iSN-101/S3	Wall Mounting	-	-	Yes			
iSN-101/S3/DIN	DIN-Rail Mounting	-	-	Yes			
iSN-104	DIN-Rail Mounting	-	-	-	4		
iSN-104-E	DIN-Rail Mounting	-	-	-		Ethernet (Modbus TCP) /PoE	

Liquid Leak Detection Cable

✓ Disconnection detection function **provided.**
✓ Connection of multiple detection cables **supported.**

\+  Termination Resistor **CA-LLD-DC100X-TR**



1 meter — **CA-LLD-DC100X-L010**



3 meters — **CA-LLD-DC100X-L030**



10 meters — **CA-LLD-DC100X-L100**



30 meters — **CA-LLD-DC100X-L300**



50 meters — **CA-LLD-DC100X-L500**

Liquid Leak Detection Cable

X Disconnection detection function is **not provided.**
X Connection of multiple detection cables is **not supported.**



1 meter — **CA-LLD-DC100-L010**



3 meters — **CA-LLD-DC100-L030**



10 meters — **CA-LLD-DC100-L100**



30 meters — **CA-LLD-DC100-L300**

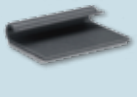


50 meters — **CA-LLD-DC100-L500**

Related Accessories



180° Fixing Clip — **ASO-0051**



90° Fixing Clip — **ASO-0052**



Signal Cable, 3M — **CA-LLD-EC-L030**



Liquid Leak Detection Probe — **CA-LLD-DP100**



Termination Resistor, 2MΩ — **CA-LLD-DC100X-TR**