



iSN-101 iSN-101/DIN
Liquid Leak Detection Module

Introduction

The iSN-101 Liquid Leak Detection Module is a low-cost intelligent liquid leak detection device that can be used to directly control Relay Output. No additional conversion module is needed and the iSN-101 can be easily integrated with a variety of monitoring systems to achieve remote alarm and remote device control. The iSN-101 Liquid Leak Detection module can be used to monitor double-core leader cable lengths of up to 500 meters, and can be used with both the extended cable and its included liquid leak detection cable. If liquid is detected, the controller immediately activates the output relay - the normally open, normally closed passive output signal. The module can be easily integrated with other collection hosts connected to the network. The iSN-101 is suitable for real-time leak detection in critical locations, such as computer room base stations, warehouses, libraries, museums and industrial sites, and also for air handling equipment, refrigeration units, liquid containers, or pump tanks, etc., where there is a need to monitor any leakage of the equipment.

When required, communication with the iSN-101 can be programmed based on the Modbus RTU protocol, with the added benefit that different addresses can be configured via hardware to allow for Modbus RTU communication.

System Specifications

Communication	
Interface	RS-485
Format	N,8,1 / O,8,1 / E,8,1 / N,8,2
Baud Rate	Software Configuration: 1200 ~ 115200 bps
Protocol	Modbus RTU or DCON
Node Addresses	96 ~ 127 for hardware configuration 0 ~ 255 for software configuration
LED Indicators	
LED Indicators	1 as Power Indicator. 1 as Alarm Indicator.
EMS Protection	
ESD (IEC 61000-4-2)	±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power
Power	
Reverse Polarity Protection	Yes
Input Voltage Range	10 to 30 Vdc
Consumption	1.5 W Max.
Mechanical	
Dimensions (W x L x H)	83 mm x 70 mm x 29 mm
Installation	DIN-Rail
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-30 to +80°C
Humidity	10 to 90% RH, Non-condensing

Features

- 1-ch Liquid Leak Detection
- Water Leakage detection triggers and audible alarm
- A mute button to silence the audible alarm
- Two LED indicators to display the status of the power and the alarm
- Relay Output for Water Leakage Alarm
- Liquid Leak Detection Cable and Extended Cable can be up to 500 meters
- Sensitivity adjustable detection
- Supports the DCON and the Modbus RTU Protocols
- Embedded Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C
- Tiny Form Factor with Easy Screw Mounting



I/O Specifications

Analog Input	
Channels	1
Wiring Cables Length	500 meters (include Liquid Leak Detection Cable and Extended Cables)
Sound Off Button	The button is used to stop the audible alarm.
Sensitivity Adjustment Range	26 KΩ ~ 580 KΩ
Detection of Pure Water	Yes, 2uS/cm
Water Leakage Alarm	Yes, 1 Sec (Built-in Buzzer)
Relay Output for Water Leakage Alarm	
Channels	1
Form C Relay	0.5 A @ 125 VAC 2 A @ 30 VDC

Configuration



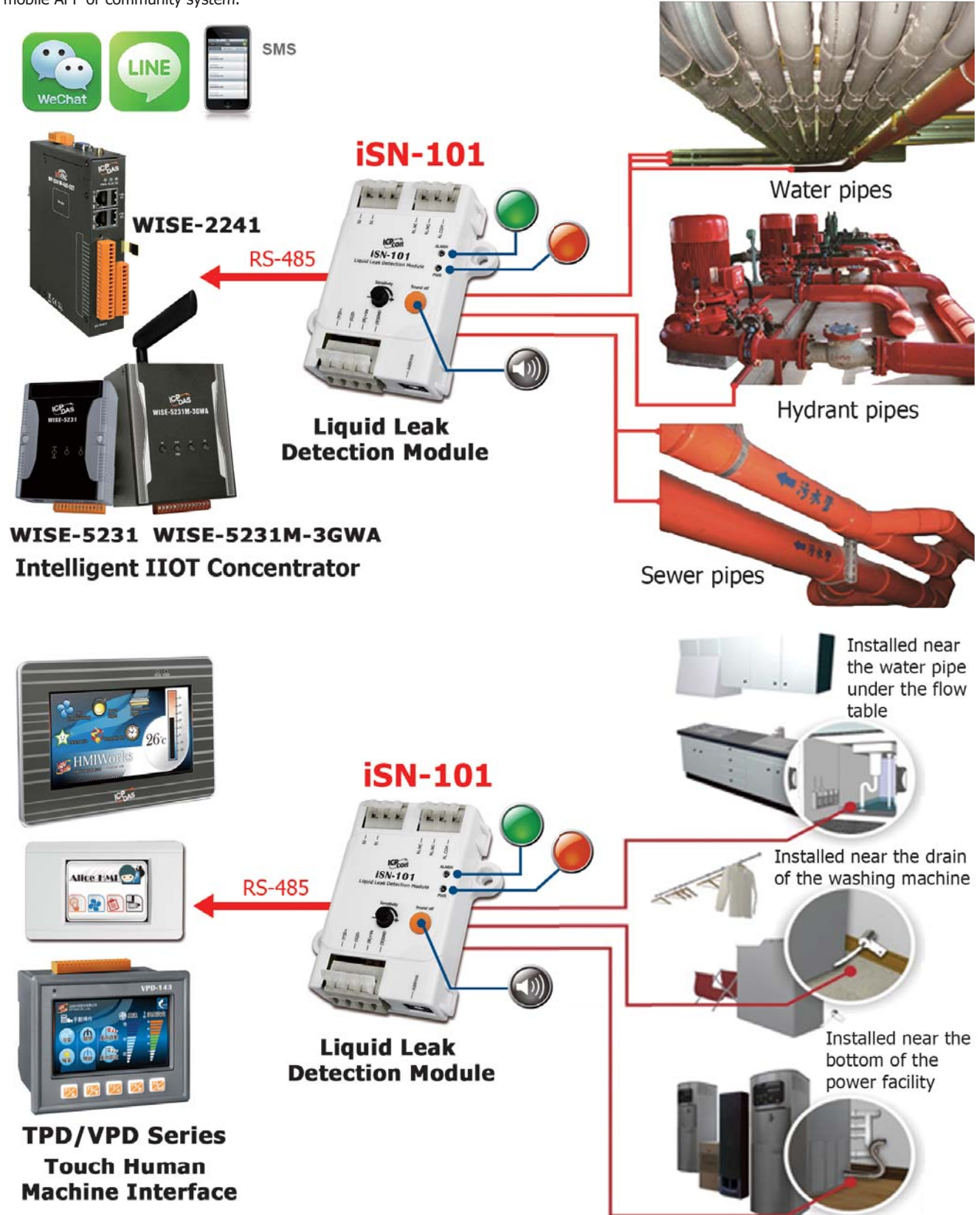
DIP Switch Description			
	SW1	ON	DCON Protocol
		OFF	Modbus RTU Protocol
	SW2	ON	Software Configuration
		OFF	Hardware Configuration
SW3	ON	High Node Address	
	OFF	Low Node Address	
SW4	ON	INIT Mode	
	OFF	Normal Mode	

Applications

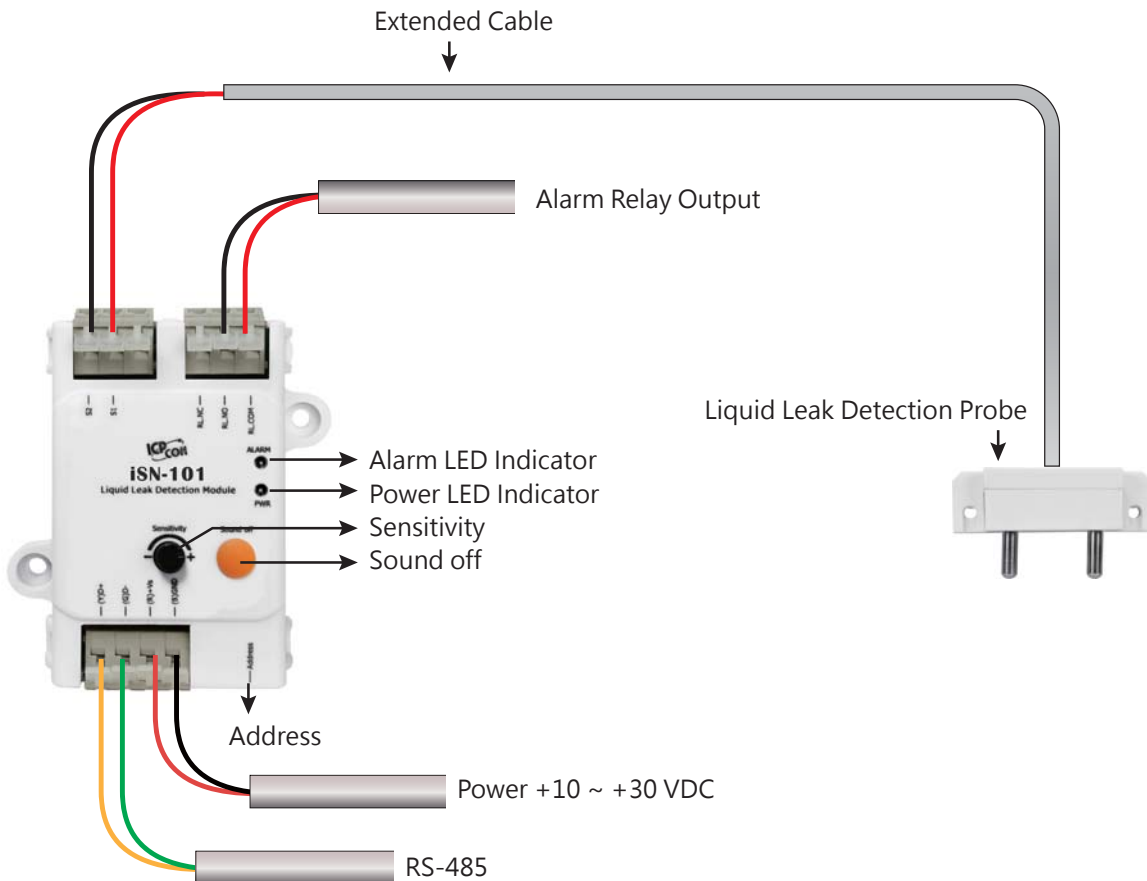
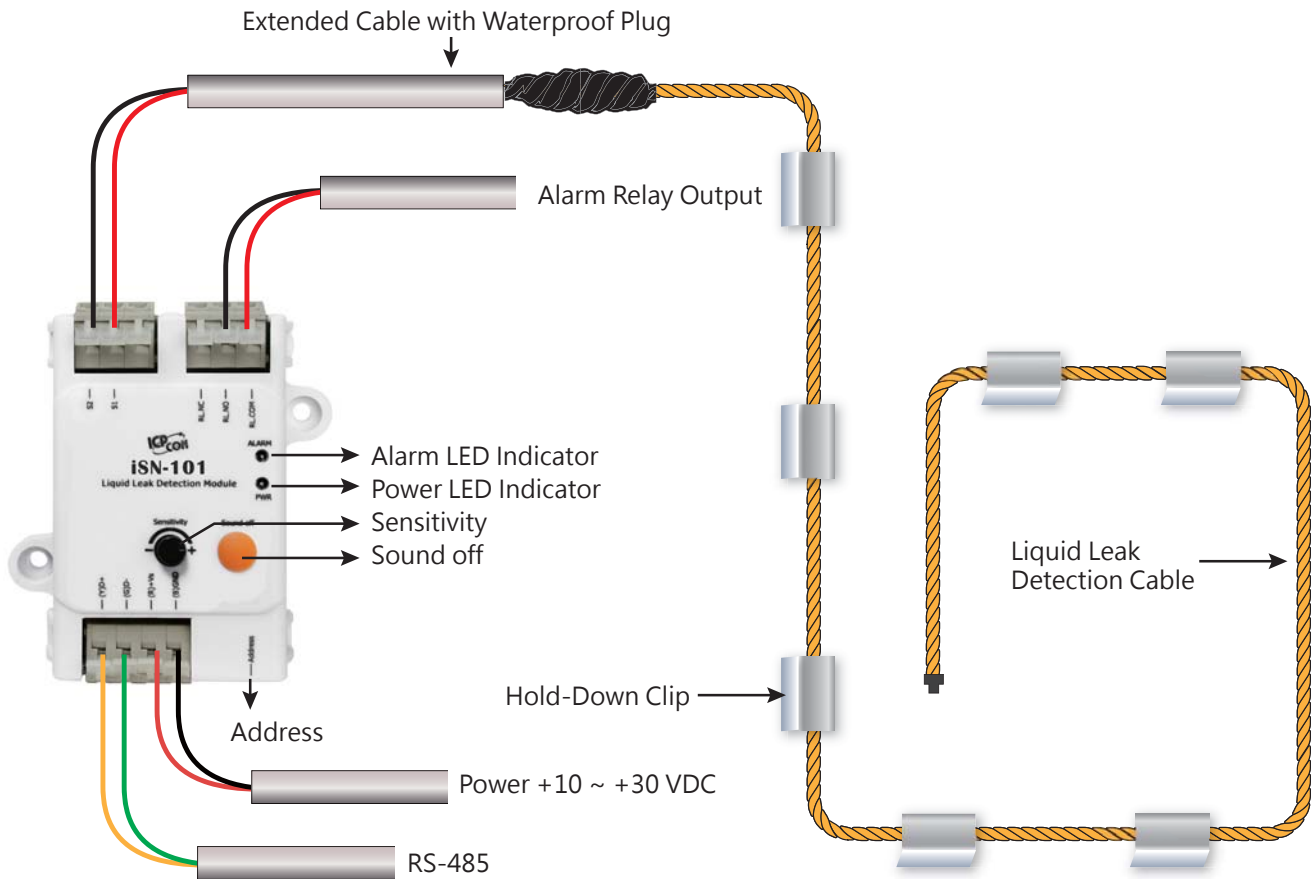
The iSN-101 is a leakage detection module used in water pipe leak monitoring in buildings with two working modes.

1. Work with the water sense cable that installed near the possible leaking pipe or area to detect leakage with alarm.
2. Work with the water leakage probe that installed in fixed possible leak locations to detect.

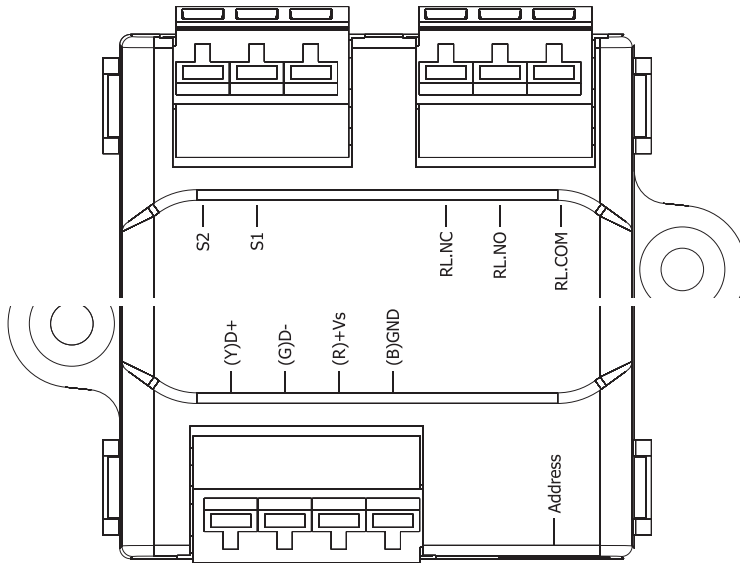
The leakage monitoring is applied to the water pipes, fire pipes and sewage pipes of buildings, as well as the detecting of domestic water, drainage and electric equipment, which can effectively achieve water saving and ensure the safety of living. The iSN-101 can detect leakages, send out signal and alarms, combine with the WISE IoT Edge Controller or TPD/VPD Touch HMI, and to further integrate with the mobile APP or community system.



Wire Connections



PIN Assignments



Ordering Information

iSN-101 CR	1-channel Liquid Leak Detection Module (RoHS)	
iSN-101/DIN CR	1-channel Liquid Leak Detection Module (DIN Rail mount) (RoHS)	
iSN-101/S CR	1-channel Liquid Leak Detection Module (RoHS)	
iSN-101/S/DIN CR	Includes an iSN-101 Module, a 1m Liquid Leak Detection Cable and 3m Extended Cable.	
iSN-101/S2 CR	1-channel Liquid Leak Detection Module (RoHS)	
iSN-101/S2/DIN CR	Includes an iSN-101 Module, a 3m Liquid Leak Detection Cable and 3m Extended Cable.	
iSN-101/S3 CR	1-channel Liquid Leak Detection Module (RoHS)	
iSN-101/S3/DIN CR	Includes an iSN-101 Module and a Leakage Probe.	
iSN-101/S CR = iSN-101 + CA-LLD-DC100-L010 + CA-LLD-EC-L030	iSN-101/S2 CR = iSN-101 +CA-LLD-DC100-L030 + CA- LLD-EC-L030	iSN-101/S3 CR = iSN-101 + CA-LLD-DP100

Accessories

	tM-7520U CR	RS-232 to RS-485 converter (RoHS)		I-7514U CR	4-channel RS-485 Hub (RoHS)
	tM-7561 CR	USB to RS-485 converter (RoHS)			

1m Water Sense Cable	3m Water Sense Cable	3m Leader Cable	Leakage Probe	180 Hold-Down Clip	90 Hold-Down Clip
CA-LLD-DC100-L010	CA-LLD-DC100-L030	CA-LLD-EC-L030	CA-LLD-DP100	ASO-0046	ASO-0047