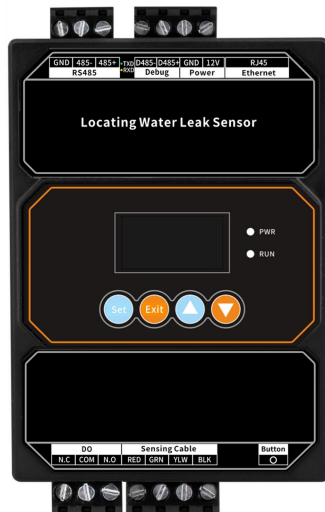


Locating Water Leak Sensor

Provides 1 locating water leakage detection interface, 1 relay alarm output interface, and 1 RS485 interface, supporting Modbus TCP/RTU protocol communication.



Locating Water Leak Sensor Diagram

Features and Advantages

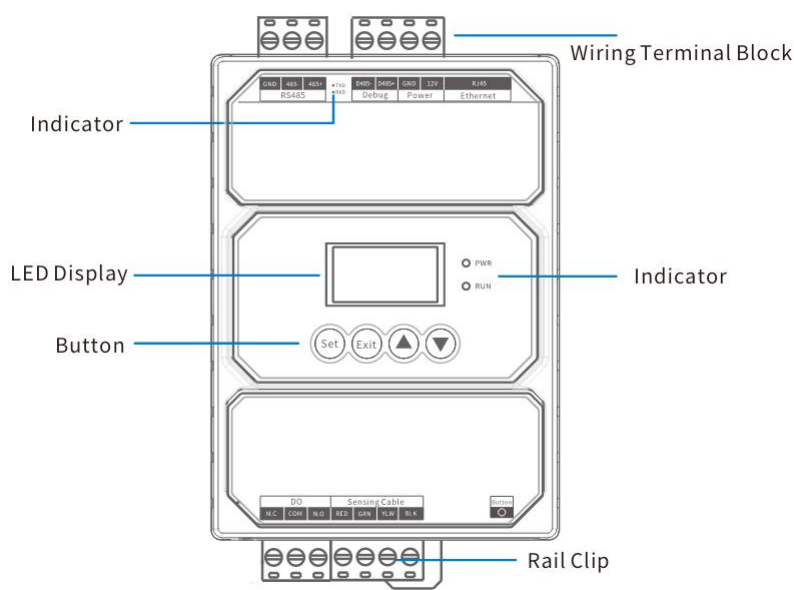
- Supports a single water leakage detection line with a maximum range of 500 meters and multi-point leak alarm detection.
- Supports automatic detection of leak location without the need to calibrate the length of the leak rope.
- Supports detection of the second leak location; when a multi-point leak alarm occurs, the second leak location can be identified.
- Provides functionality for detecting line breaks.
- Offers three adjustable levels of water leakage sensitivity.(software or DIP switch settings)
- Includes a built-in buzzer that emits audible alarms upon detecting liquid leakage or line breaks, with the option to mute the alarm using an external button for one-key silence.
- Equipped with one Type C relay output, it supports remote or linked control output switch signals. It can be connected to audible and visual alarms, smart alarm systems, and automatic valves.
- Features one RS485 interface for upstream communication, supporting the standard Modbus TCP/RTU protocol.
- Easy configuration with a built-in LED display and setting buttons, supporting water leak detection status display.
- Comprehensive indicator lights for full status monitoring and timely troubleshooting.
- Ensures high reliability with a dual watchdog design, providing stable operation, crash prevention, and automatic reset in case of anomalies.
- Operates on an RTOS real-time operating system, delivering fast response, efficient processing, and reliable performance.
- Designed for a wide operating range, with temperatures from -40°C to 85°C and voltages from 9 to 27VDC, making it adaptable to various environments.
- Includes comprehensive port protection, with safeguards against over-voltage, over-current, reverse polarity, and incorrect wiring.

Introduction

Locating Water Leak Sensor is a single-route locating leakage detection controller. It supports remote data acquisition via the RS485 serial port or ethernet port and adheres to the standard Modbus TCP/RTU communication protocol. The device includes one relay output and allows customization of accessory packages with varying lengths to suit the spatial dimensions of different monitoring areas (note: accessories must be purchased separately). This controller is ideal for environments requiring water leakage detection, such as libraries, museums, archives, logistics hubs, airports, oil depots, pipeline corridors, factory warehouses, and data centers.

I. Port Diagram

Note: The interfaces and appearance may vary depending on the model.



II. Technical Specifications

Basic Information

Operating System	RTOS
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Water Leak Detection Interface

Number of Ports	1 route
Connection Terminal	Phoenix terminal
Detection Range	Up to 500 meters
Detection Accuracy	±0.5%FS + 0.2 meters
Sensitivity Levels	3 adjustable levels (software settings)
Protection Form	ESD
Electrostatic Protection	8KV

Ethernet Interface

Number of Ports	1 route
Speed	10/100M
Transmission Distance	100 meters
Communication Protocol	Standard Modbus TCP protocol
Protection Form	GAS+PPTC+TVS
Lightning Protection	2KV/1KA

Serial Port

Number of Ports	1 route
Interface Type	Phoenix Terminal
Transmission Distance	RS485
Communication Protocol	Standard Modbus RTU protocol
Protection Form	GAS+PPTC+TVS
Lightning Protection	2KV/1KA

Power Supply

Power Connection Terminal	Phoenix terminal
Input Voltage	9~27VDC
Current	≤130mA@12VDC
Power Consumption	< 1.56W
Protection Form	ZOV+PPTC+TVS
Lightning Protection	2KV/1KA

Over-Voltage and Over-Current Protection

Power	30V/500mA
RS485	30V/200mA
DO	30V/3A

Protection and Safeguards

EMC	Electrostatic Discharge (ESD): Complies with GB/T 17626.2-2018, Level 2, Contact 4kV, Air 4kV. Surge Protection: Complies with GB/T 17626.5-2019, Level 2, Differential Mode 0.5kV. Electrical Fast Transient (EFT): Complies with GB/T 17626.4-2018, Level 2, Power Line 1kV, Signal Line 0.5kV. Radiation Immunity: Complies with GB/T 17626.3-2016, Level 2.
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Operating Environment

Operating Temperature	-40℃ ~ 85℃
Relative Humidity	5% ~ 95%RH (non-condensing)

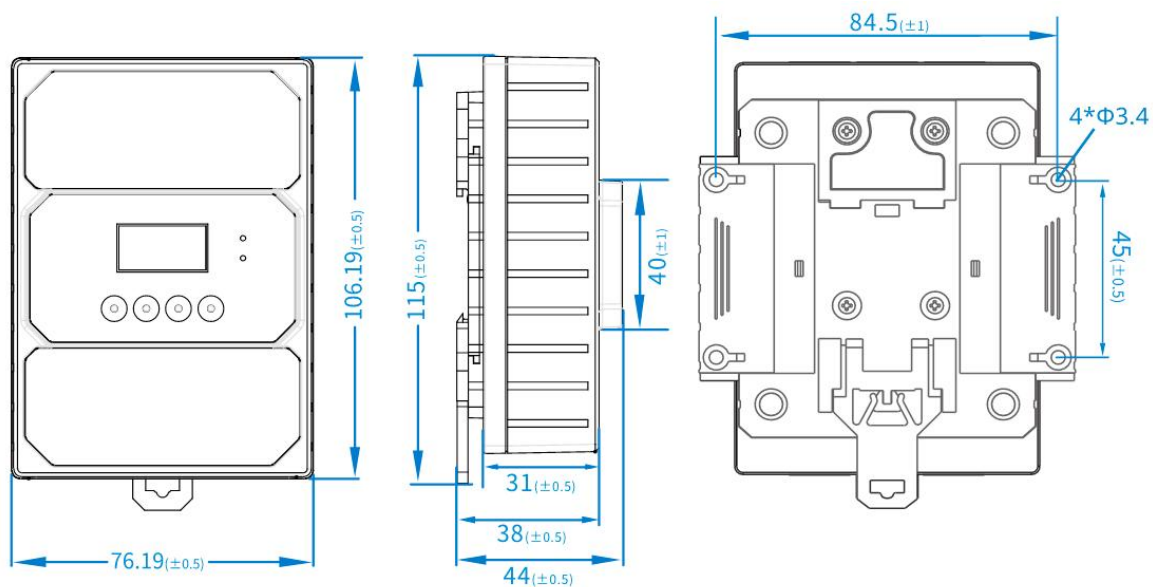
Mechanical Characteristics

Mounting Method	DIN rail/mounting hole installation
Dimensions	115*76.2*44mm (excluding terminals and mounting plate)

III. Product Dimensions

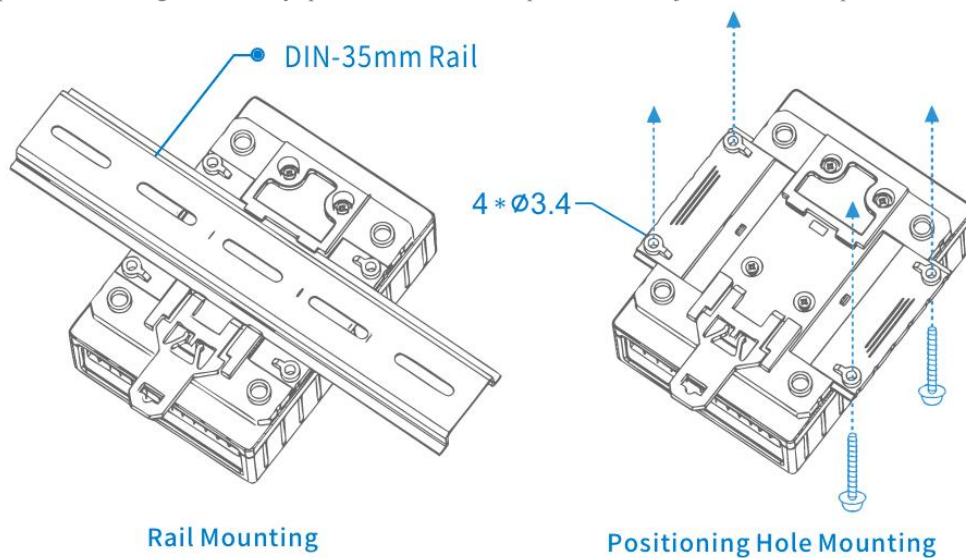
Note: The dimensions are provided for reference only. For details such as ports, please refer to the actual product.

Unit: (mm, $\pm 2\text{mm}$)



IV. Mounting Method

Note: Indicates the product mounting method only; port details and other specifics are subject to the actual product



V. Accessory Package (Accessory package must be purchased separately)

5.1.Diagram

Note: The appearance may vary between different models. Please refer to the actual product

			
Locating Water Leak Sensing Cable	Locating Water Leak Lead Cable	Adhesive Clip	Leak Detection Termination End

5.2.Locating Water Leak Sensing Cable

Technical Parameters

Cable Diameter	6.0mm $\pm$ 0.3mm
Number of Cores	2C+2C
Continuity Detection and Signal Wire	(Red Yellow 7/0.20TA) 2x24AWG, Insulation Polymer
Insulation Material	Red Yellow: PP
Insulation Thickness	Red Yellow: 0.245mm single-sided insulation
Black Sensing Wire	(2 cores: single 0.37) 2x28AWG, with conductive polymer sheath
Insulation Material	Black/Black: Conductive Plastic
Insulation Thickness	Black Black: 0.365mm single-sided insulation
Core Material of Framework	Galvanized Iron Wire
Framework Sheath Color	Yellow
Framework Sheath Material	Modified PVC
Connector Material	Core: PA66, Terminal: Copper
Wire Core Resistance	13 Ω $\pm$ 0.5/meter
Cable Weight	100M = 4KG
Operating Temperature Range	-20°C to 105°C
Tensile Strength	$\leq$ 70KG
Flame Retardant Rating	94-V0
Abrasion Resistance	60 cycles

5.3.Locating Water Leak Lead Cable

Technical Parameters

Cable Diameter	4.5mm $\pm$ 0.2mm
Cable Color	Red, Green, Yellow, Black

5.4.Adhesive Clip

Technical Parameters

Number	1piece/m
Dimensions	36*20*3 (mm)
Weight	2.4g/piece

5.5.Leak Detection Termination End

Technical Parameters

Total Length	56mm $\pm$ 0.5mm
Maximum Outer Diameter	Φ 19mm
Number of Cores	4 cores
Color	Black
Material	Plastic

VI. Wiring Diagram

Note: This diagram is for reference only and applies to locating water leak sensor and accessory wiring. Specific accessories and details should be based on the actual product. Wiring length can be customized according to requirements.

