

Product Specification



- ◆ Locating detection
- ◆ High stability
- ◆ Multiple functions
- ◆ Relay output
- ◆ LCD display
- ◆ RS-485 communication

Product Overview

XW-PC-3A Locating leak detection sensor with LCD and Relay can detect the area up to 150 meters, monitoring of environmental leakage, once the liquid is detected, the sensor immediately alarm and accurately locate the leakage position and trigger the relay. The specific location of leakage can be read through the LCD display screen. The relay contact signal and 485 signal output by the detector can be integrated with various monitoring systems to realize remote monitoring.

Application & Features

Application

- IDC
- Intelligent Building
- Data centre
- Library
- Museum
- Warehouse

Features

- Using industrial-grade electronic components can not only ensure high sensitivity, but also reduce false alarms caused by various external factors.
- With fault alarm, leakage alarm, interference alarm and other functions, and can display the status of

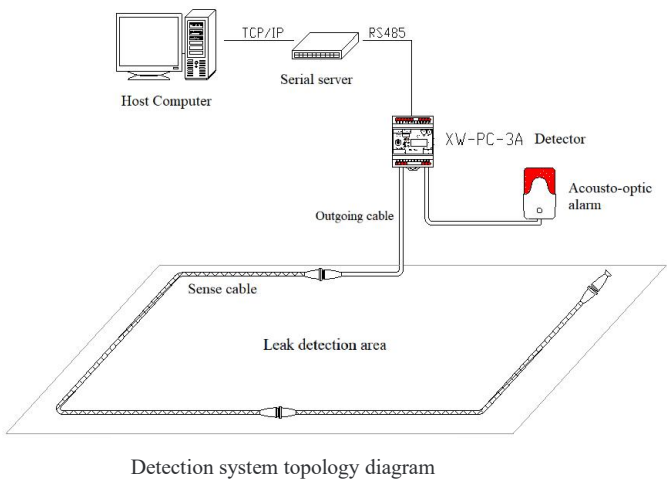
the sensor through the interface indicator.

- Adopt standard industrial modules and DIN rail mounting, all connections can be easily done through terminals. When leakage occurs, the relay act and leakage indicator light up, and the controller automatically restores to normal state after danger elimination, no need manual operation.
- The specific location of leakage can be read intuitively and easily through the display screen, and metric/imperial units and reset alarm information can be adjusted by the button.
- Sensor can output RS485 signals and the communication distance is up to 1200 meters.

Technical Data

| | | |
|----------------------|------------------------|---|
| Sensing performance | detection distance | 150m |
| | Response time | ≤1s |
| | Detection accuracy | ±0.5m+1% |
| | Reading accuracy | 0.1m |
| RS485 interface | Communication protocol | MODBUS-RTU, MODBUS-ASCⅡ self-adaption |
| | Bus address | 1~254(default 1) |
| | Baud rate | 1200, 2400, 4800, 9600(default), 19200bps |
| | Data format | N,8,1 |
| Relay Output | Contact type | Dry Contact, 1 set, NC/NO |
| | Load capacity | 250VAC/3A、30VDC/3A |
| Environmental rating | Operating Temperature | -20℃~70℃ |
| | Operating humidity | 0~95%RH(No condensation) |
| Power supply | Supply voltage | DC 9~30V(recommend 12V DC) |
| | Power Consumption | ≤0.5W |
| EMC protection grade | ESD | Contact discharge±8KV, Air discharge±15KV |
| | Surge | ±4KV |
| | EFT | ±4KV |

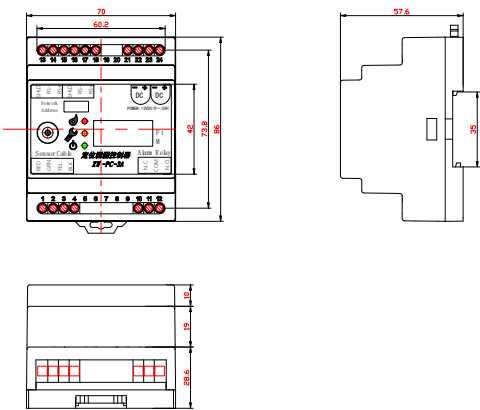
Operation Principle



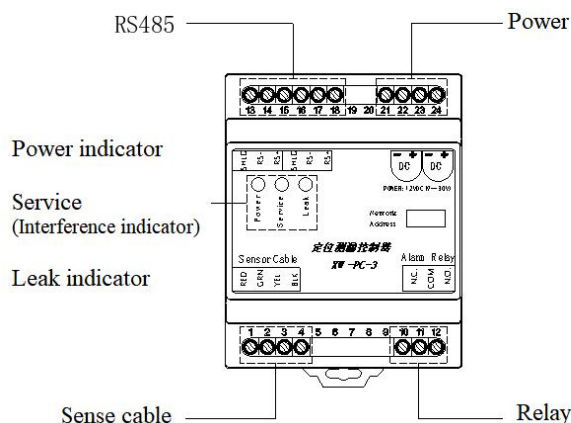
XW-PC-3A sensor connect with sense cables, and once the liquid is detected, the leakage data can be uploaded leakage data to the host computer through RS485 signal, accurately locate the leakage position and trigger the relay action. Sensor relay output signal can be used to control peripheral equipment such as acousto-optic alarm, automatic valve and intelligent alarm, etc.

Installation

◆ Product dimensions (Unit: mm, error: ±0.5mm)



◆ Buttons and indicators



- ◆ Install the detector in a secure indoor collection box or cabinet where it is easy to maintain and check. Avoid high temperature, high humidity, vibration, corrosive gases, and other electronic interference sources. XW-PC-3A sensor buckle is mounted on a standard 35 mm DIN rail.

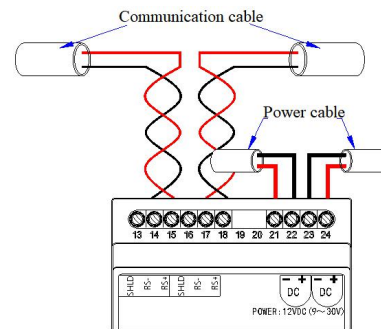


◆ Wiring instructions

| | |
|--------------|---|
| Sense cable | Connect the red, green, yellow, and black core wires of the outgoing cables to connect R, G, Y, and B on the sensor panel, and then connect the XW1000 sense cable with spiral structure. |
| Relay output | Output NO/NC contact can be connected to monitoring system, also can be connected to alarm devices to output alarm signal. When controlling high current equipment, it is necessary to add secondary relays to expand the contact load capacity, otherwise the detector may burn out. |
| Power Supply | DC 9~30V power input (DC12V is recommended to ensure long-term working stability). If voltage too low, it will not work properly, and if voltage too high, the controller will burn out. |

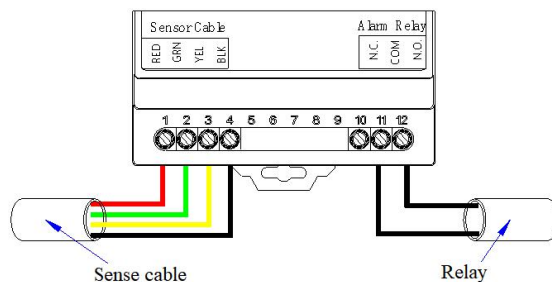
Connect power cables and communications cables

XW-PC-3A sensor uses the rated supply voltage. RS-485 communication cable transmit alarm and status information. Note the positive and negative directions of the ports. All XW-PC-3A devices have two sets of RS485 communication terminals, one set of inbound terminals (from the monitoring host system) and one set of outbound terminals (to the next controller).



Connect power cables and communications cables

The relay contacts can be used to connect local or remote alarm, control valve or other device, can also connect automation control system. The relay operates only for leak alarm. With NO and NC two kinds of state, can choose the connection mode freely. In the leak detection system, the outgoing cable used to connect the sensor and leak sense cable.

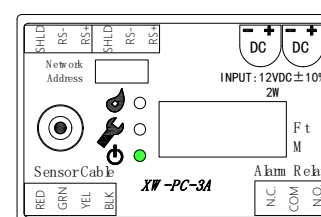


Output signals of relay are shown in the following table:

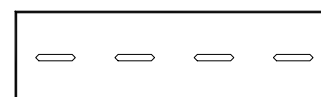
| Connection combination | Alarm status | Output status |
|------------------------|--------------|---------------|
| N.O.—COM | No alarm | Open |
| | Alarm | Close |
| | poweroff | Open |
| N.C.—COM | No alarm | Close |
| | Alarm | Open |
| | poweroff | Close |

Debug Instructions

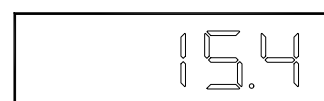
- ◆ Power on the sensor, normal working condition (no leakage), the power indicator is green and keep on.



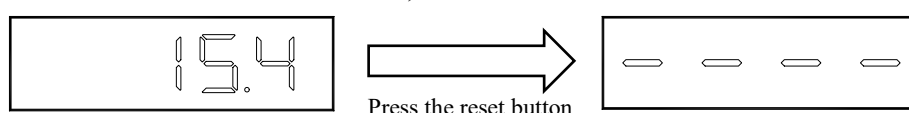
- ◆ Under normal working condition (no leakage), the LCD screen shows four horizontal lines flashing. Otherwise, the fault indicator blinks orange. Please check whether the sense cable are connected correctly.



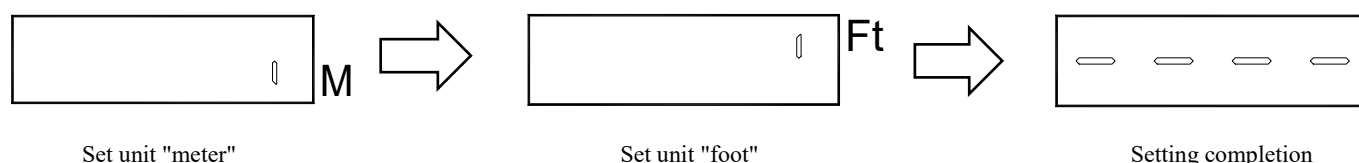
- ◆ Take a some water (non-purified water) and soak the sensor probe protection cover in water. After 5~8s, the relay work, LEAK indicator will be red and keep on. LCD displays the leak location.



- ◆ After drying the water on the sense cable, the relay will be reset and LEAK will light off. The LCD screen blinks again. Press the button to reset the LCD screen(Note: Need manual reset on the screen every time, otherwise the data will always show the location of the last leak)



- ◆ LCD display setting: Long press the button to set meter or foot unit, then long press the button again to complete setting.



- ◆ There are three LEDS on the sensor, which respectively represent power supply, fault and leak. The following table lists different indicator states and corresponding corrective measures.

| | | |
|--------------------------|---------|--|
| Power indicator (green) | Keep on | Power supply is normal |
| | Off | The power supply is abnormal or the controller is faulty |
| Fault indicator (orange) | Keep on | Possible causes include incorrect sense cable connection, cable failure, less water, insufficient water conductivity, or alarm interference. |
| | Off | Sense cable is connected correctly |
| Leak indicator (red) | Keep on | Leakage |
| | Off | No leakage |

Notices

- ◆ Please don't touch the detector with wet hands.
- ◆ Please don't modify or disassemble the detector.
- ◆ Please connect cables when the detector when power-off.
- ◆ Check the load capacity of the power supply when connecting multiple devices.
- ◆ Avoid contact with metal files, grease, pipe paint and other contaminants.
- ◆ Before installation, confirm the rated voltage of detector and the power supply voltage.
- ◆ During regular inspection and maintenance, avoid using organic solvents and wipe with dry cotton yarn.



We recommend that you use this manual under the guidance of professional personnel. If the product is damaged by violation operation or a third party force majeure such as fire, flood, lightning and natural disaster, Xiangwei will not assume any responsibility.

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