XW-PC-3A-PRO

Locating Leak detection alarm units

Product Specification

- ◆ **Locating detection**
- ◆ **LCD display**
- ◆ **Long distance detection**
- ◆ **Relay output**
- ◆ **Adjustable sensitivity**

Product Overview

XW-PC-3A-PRO Locating Leak detection alarm units can detect the area up to 1500 meters, monitoring of environmental leakage, once the liquid is detected, the sensor immediately alarm and accurately locate the leakage position and trigger the relay. Device parameters such as sensing sensitivity, communication address and baud rate can be set by pressing buttons on the interface. 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

- Long distance pipeline
- IDC
- 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.

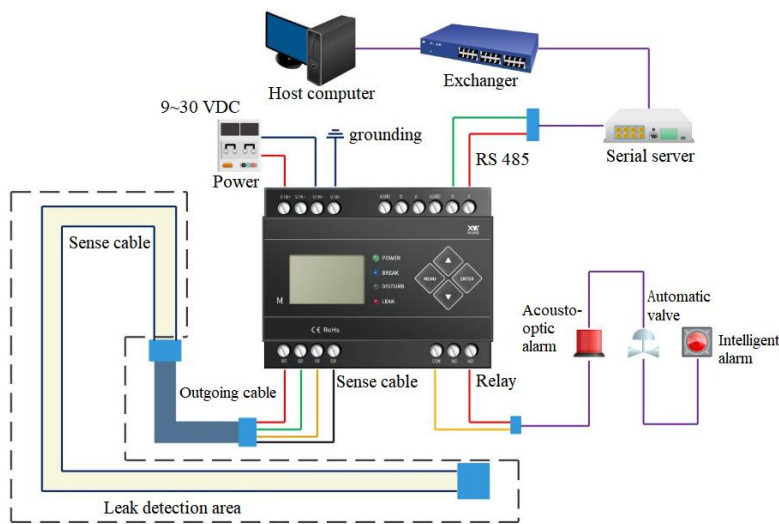- Can adjust the sensor sensitivity, communication address and baud rate by pressing buttons on the panel.

- With fault alarm, leakage alarm, interference alarm and other functions, and can display the status of the sensor through the indicator and LCD screen.

- The detection distance is up to 1500 meters.

- 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.

Technical Data

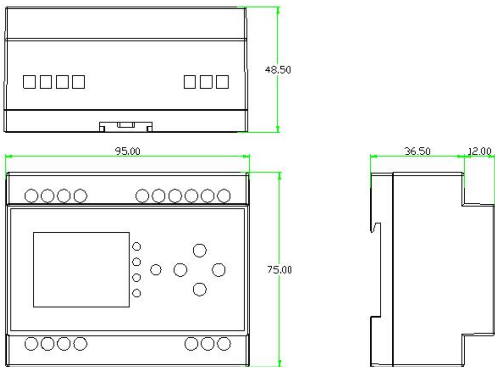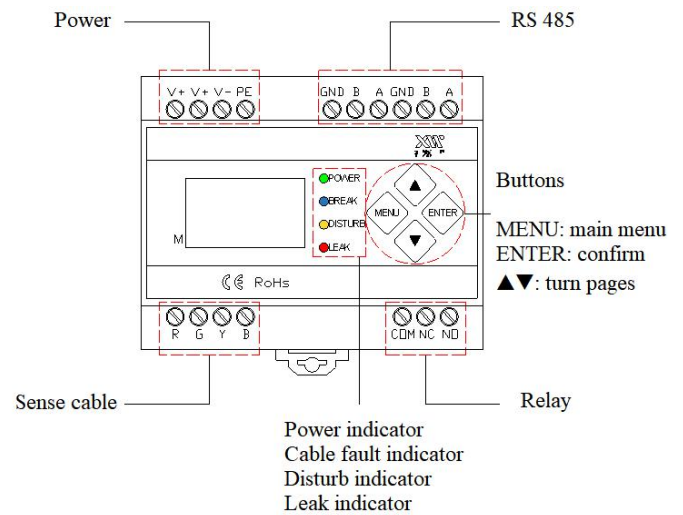|		
Sensing performance	detection distance	1500m
	Response time	15～20s
	Detection accuracy	±0.5m+1%
	Reading accuracy	0.1m
RS485 interface	Communication protocol	MODBUS-RTU, MODBUS-ASCⅡ self-adaption
	Bus address	1~254(default 1)
	Baud rate	1200, 2400, 4800, 9600(default), 19200bps
	Data format	N,8,1
Relay Output	Contact type	Dry Contact, 1 set, NC/NO
	Load capacity	250VAC/3A、30VDC/3A
Environmental rating	Operating Temperature	-20°C~70°C
	Operating humidity	0~95%RH(No condensation)
Power supply	Supply voltage	DC 9~30V(recommend 12V DC)
	Power Consumption	19mA
EMC protection grade	ESD	Contact discharge±8KV, Air discharge±15KV
	Surge	±4KV
	EFT	±4KV

Operation Principle

XW-PC-3A-PRO 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.
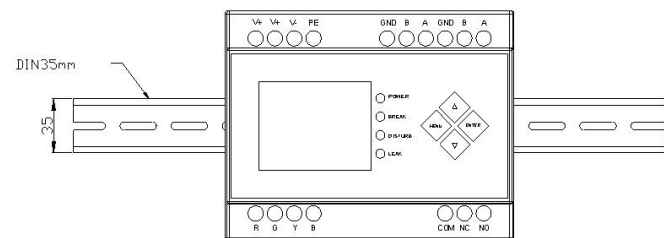
Installation

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

◆ Buttons and indicators

Power — RS 485

Buttons
MENU: main menu
ENTER: confirm
▲▼: turn pages

Sense cable

Relay

Power indicator
Cable fault indicator
Disturb indicator
Leak indicator

◆ 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-PRO sensor buckle is mounted on a standard 35 mm DIN rail.
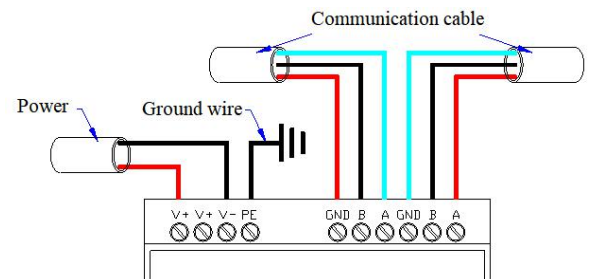

◆ Wiring instructions

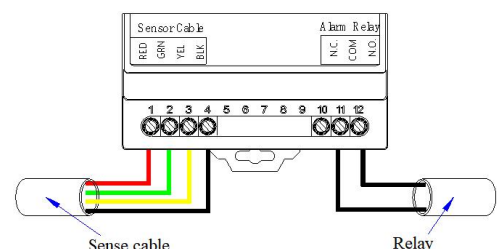| Sense cable	Connect the red, green, yellow, and black core wires of the outgoing cables to connect R, G, Y, and B on the sensor panel, and then connect the XW1000 sense cable with spiral structure.
Relay output	Output NO/NC contact can be connected to monitoring system, also can be connected to alarm 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-PRO 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-PRO 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.
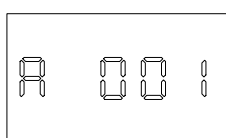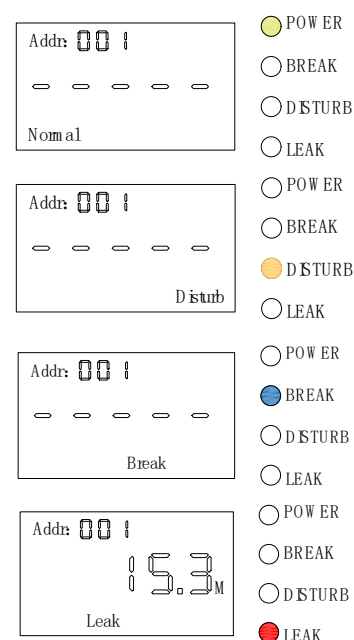
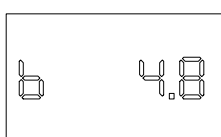**Output signals of relay are shown in the following table:**

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

◆ When the leak detection alarm units is powered on, the POWER indicator blinks once 5s. In normal working status (no leakage), the LCD screen blinks.

◆ If the DISTURB indicator blinks orange, it is interference alarm, possible causes include less water, insufficient water conductivity, or alarm interference.

◆ If the BREAK indicator blinks blue, it is cable fault alarm.

◆ Take a some water (non-purified water) and soak the sensor probe protection cover in water. After 15~20s, 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 indicator will light off. The LCD screen blinks again. Press the ENTER button to reset and LCD screen blinks.

◆ LCD display setting: Press the MENU button to switch parameters (communication address, baud rate and sensitivity), press "▲" or "▼" to select the parameter value, and long press ENTER button to complete the setting

Set communication address   Set baud rate   Set sensitivity

◆ There are three LEDS on the sensor, which respectively represent running, cable fault, disturb alarm and leak. The following table lists different indicator states and corresponding corrective measures.

Power indicator	5s blinks	Power supply is normal
	Off	The power supply is abnormal or the controller is faulty
BREAK indicator	Blink	Possible causes include incorrect sense cable connection, cable failure, less water, insufficient water conductivity, or alarm interference.
	Off	Sense cable is connected correctly
DISTURB indicator	Blink	Disturb alarm
	Off	Normal
LEAK indicator	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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