

SPD-WL01-PRO

MODBUS Water Leak Detection Controller

1. Production introduction

SPD-WL01-Pro RS485 non-locating leak detection controller is a liquid leak detection equipment with simple operation and high performance. Different sensitivity can be selected through the DIP switch on the panel to meet different environments and grade requirements. With relay contact signal and RS485 signal output, it can be integrated with various monitoring systems to realize remote monitoring.



2. Specification

Model number	SPD-WL01-Pro
Response Time	≤1S
Detection Distance	500m
Operating temperature	-20°C~70°C
Operating humidity	0%~95% RH (no condensing)
Power supply	9V -30V DC, recommend 12V DC
Power Consumption	≤0.5W
RS485 serial port	MODBUS-RTU
Address	1~254, default 1
Baud rate	1200, 2400,4800,9600,19200bps, default 9600bps
Relay output	1 group, NO / NC Load: DC 60V, 100mA
Data format	N,8,1
Relay	Dry contact, NO/NC Load: 120V AC/2A, 24V DC/2A
EMC Protection level	Static electricity: contact discharge ± 8kV, air discharge ± 15kV Surge: ±4KV EFT: ±4KV

Dimension	84*38*56.5 mm
Installation	DIN rail

3. Indicator definition



4. Wiring

The non-locating water leak detection system is composed by controller, sensing cable, non sensing cable, and some accessories.

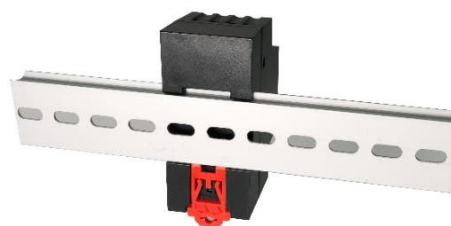


Item	Description
Lead cable	Connect the red and black core wires of the lead cable to the R and B of the controller panel respectively, and then connect the sensing cable with the other end of lead cable.
Relay output	The output normally open and normally closed contact signals can be connected to the monitoring system, and can also be used to control the alarm equipment to output the alarm signal. When it is necessary to control the high-current equipment, a relay (if necessary, a contactor should be added) to expand contact load capacity, otherwise it will burn out the controller.

Power	Connect the DC 9V~30V power supply according to the terminal mark (recommend use 12V DC). If the voltage is too low, it will not work normally, and if the voltage is too high, it will burn the controller.
RS485	Connect to RS485 positive and negative separately according to the terminal mark.

5. Installation

Please install the controller in a solid indoor collection box or cabinet that is easy to maintain and inspect. The installation position should avoid high temperature and high humidity, vibration, corrosive gas environment and other sources of electronic noise interference. The SPD-WL01-Pro controller is



buckled on a standard 35mm DIN rail. Please make sure the power cut off before wiring.

*Notes

This product is an electronic device, please follow the following precautions to avoid damage to electronic components

- 1) Do not modify or disassemble it;
- 2) Please do not touch it with wet hands when power connected;
- 3) Before installing the device, please check the rated voltage and power supply voltage;
- 4) When using the relay output, please confirm the rated load of the device connected;
- 5) Please avoid using organic solution during regular inspection and maintenance, and use dry cotton yarn to wipe;
- 6) Avoid contact with metal filings, grease, pipe paint and other contaminants

6. Testing

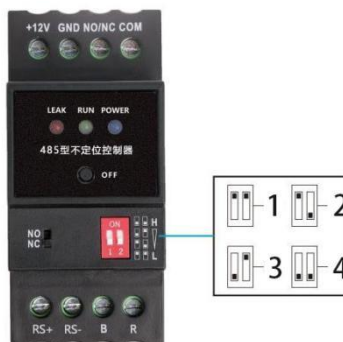
After all the wiring are completed, debugging can be carried out according to the following instructions.

1. **POWER** indicator is always on when it's powered. If the light does not turn on, power or the device is abnormal.
2. Run indicator flashes periodically for one second, otherwise the controller is abnormal.
3. Take a little tap water (non-purified water) and immerse the sensing cable in the water. After one second, the relay will act, and the **LEAK** indicator will light up in red, and the buzzer will sound.

Press the **OFF** button to silence the sound. After drying the water on the sensing cable, the relay resets and the **LEAK** indicator goes out.

4. The controller is equipped with a sensitivity DIP switch, which can adapt to different liquid leakage detection environments. The detection sensitivity of gears 1 to 4 is increased successively and the factory default is the 4th gear. The controller sensitivity reflected by each gear is shown in the table below.

Test by tap water		
1st level	Water immersion alarm length>20cm	resistance 60KΩ for reference
2nd level	Water immersion alarm length>6cm	resistance 100KΩ for reference
3rd level	Water immersion alarm length>2cm	resistance 160KΩ for reference
4th level	Water immersion alarm length>1cm	resistance 300KΩ for reference



7. Dimension

Unit (mm)

