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▶ **The length of the test wiring is 500 meters.**

▶ **Small size, guide rail installation.**

▶ **One-click silence, automatic reset function.**

▶ **Rs485 computer communication, remote alarm and control.**

Easy to set up, easy to operate

■ LD100 leak detection module is a multi-functional leak detection equipment, which can connect 500 meters detection cable. The module is small in size and easy to install in the guide rail or control box.

■ LD100 can not only connect with two-core detection line, but also compatible with other leak detection probes. Through its output relay contact signal and RS485 communication function, it can be integrated with various monitoring systems to realize remote alarm and remote equipment control.

■ Modular circuit system uses highly sensitive components, which can not only ensure high sensitivity in detection, but also avoid false alarm caused by various external factors, and design a unique surge protection function.

Multi-purpose design

■ LD100 module is small in size, and all installation and operation can be easily completed without opening the module.

■ The module is an alarm mode of automatic reset after leak elimination. The output of alarm indicator, buzzer and relay follow the automatic reset.

■ Stepless detection sensitivity adjustment, alarm button, and buzzer setting switch.

■ LD100 module is suitable for air conditioning equipment, computer room, liquid container, pump tank and other occasions where leakage monitoring and alarm are needed.

Technical Description

Detection Cable	It can be compatible with all kinds of detection cables or detection electrodes.
Detection of Cable Length	Maximum length of connectable cable is 500 meters
Plastic shell	White Fire-proof ABS Material, DIN35mm Guide Installation
Dimensional weight	Shape size L90*W58*H52mm; Weight 100g
Detection sensitivity	0-10K stepless adjustment, response time less than 1 second (when sensitivity is highest)
Power requirements	9-15 VDC DC power supply, standby current 70 mA, alarm current 120 mA
Relay output	1 SPDT usually open and close output, rated power 60VDC/1A or 220VAC/1A
Rs485 Output	RS + RS - two-wire communication interface, device address 1-255

certified product

CE CSA®

The LD100 test module has been approved by CE and CAS for use in non-hazardous areas.

PE-HD 5 YEAR WARRANTY

Five years of free quality warranty commitment after installation of the LD100 test module.

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Caution :

** Please carefully confirm the power supply voltage before power-on, and ensure that the power cable is connected to the correct port, otherwise the detection module may be burned out.**

① ②
Power input POWER

9-15VDC/1A DC Power Supply
Power supply, connection regardless of positive and negative poles.

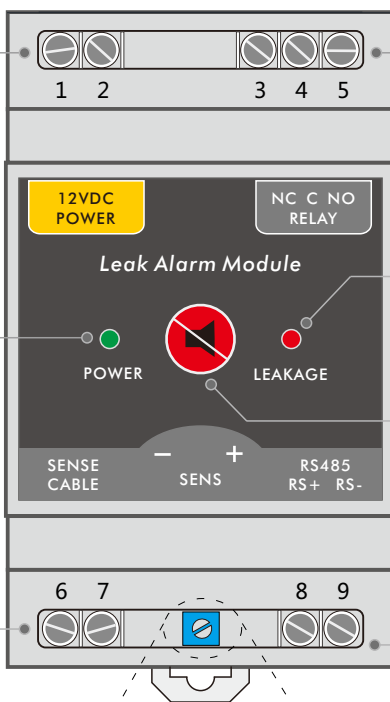**Power LED**
Power indicator lights are always on when working.

⑥ ⑦
Detection Cable SENSE CABLE

Connect the detection cable or electrode.
Two-core wiring is not sequential.

③ ④ ⑤
Alarm output RELAY

Relay dry contact signal output,
3-NC Normal Closure
4-C Common End
5-NO Often Open
Rated output power 220VAC/2A

Alarm indicator, red light when leaking
* When the power is turned on, the red alarm lights will flicker three times and then go out.

Mute button to eliminate alarm sound.
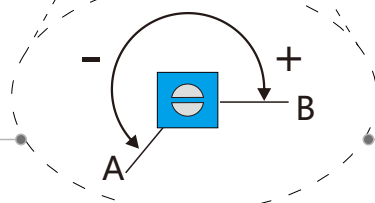* When the power is turned on, the alarm buzzer will ring six times before stopping.

⑧ ⑨
Rs485 Communication Interface

Rs485 two-wire communication,
8-RS+, 9-RS-

12VDC POWER

NC C NO RELAY

Leak Alarm Module

POWER   LEAKAGE

SENSE CABLE   − SENS +   RS485 RS+ RS-

1 2   3 4 5

6 7   8 9

Detection sensitivity -

Counterclockwise rotation reduces sensitivity.The sensitivity of point A is the lowest.More water can trigger the alarm.
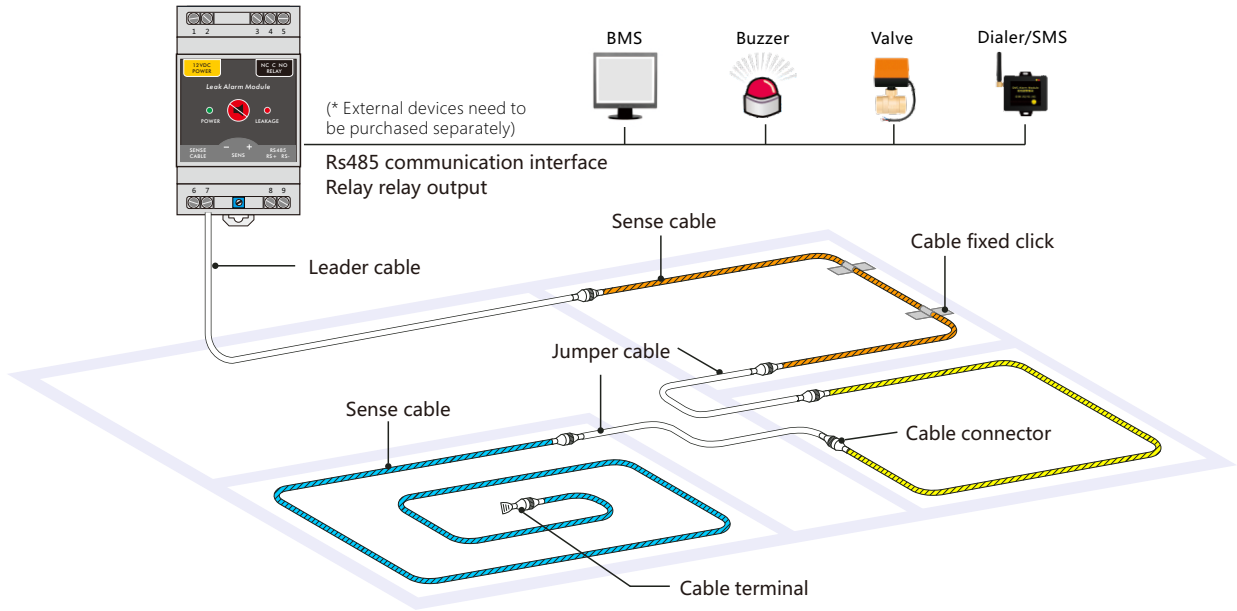
Detection sensitivity +

Clockwise rotation increases sensitivity. The sensitivity of point B is the largest. It can detect droplet alarm.
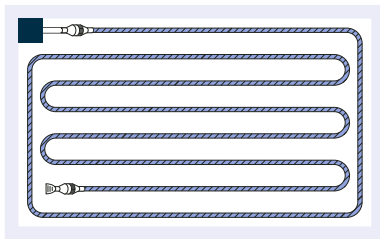
− +
B
A

Remarks:

1. The maximum length of the detection module can be connected to the detection cable is 500meters (excluding lead-out and jump-over cables).
2. The detection module is in the automatic reset mode. It can stop alarming and restore to standby state only after the leak hydrolysis is removed.
3. The detection sensitivity is set to normal value and the device address is set to 01 by default.
4. Inspection module shell is non-waterproof design. Please buy waterproof installation box in special environment.
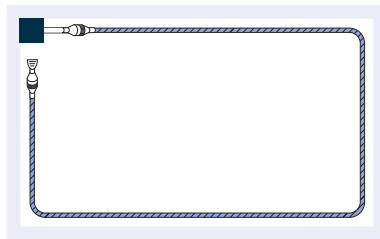
cn_Leaksense/LD100_datasheet 2019v.02   www.leaksense.com

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Typical application system diagram

BMS   Buzzer   Valve   Dialer/SMS

(* External devices need to be purchased separately)

Rs485 communication interface
Relay relay output

Leader cable

Sense cable

Cable fixed click

Jumper cable

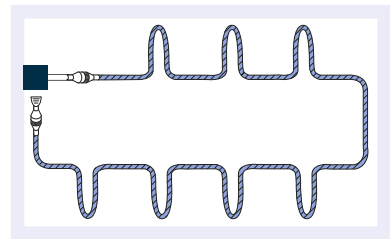Sense cable

Cable connector

Cable terminal

Detecting cable layout

Full coverage
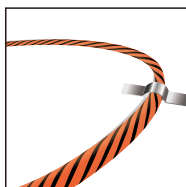A full range of protection for critical region

Perimeter coverage
To prevent leakage from around the immersion or outward diffusion

ACU coverage
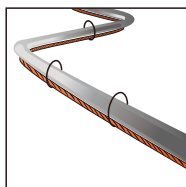The key protection for AC and other major leakage source

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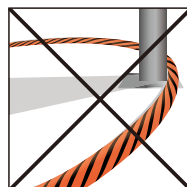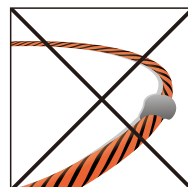## Detecting cable installation and fixing

Cable Clip

Cable holder with Sitck-On

Overhead Piping

Bundled with Floor Pedestal (Vulnerable)

Fixed with glue (Easy to damage cable)

Under HVAC Downdraft (Humidity is easy to report)

Location of the detecting cable should be far away from high temperature fire, strong magnetic field environment wet and dusty, pay attention to avoid all kinds of sharp objects scratch cable sheath.

Leaksense® module is suitable for leak detection of conductive liquids such as water, acids, alkalis and oils.

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Summary

LD100 communication protocol adopts standard MODBUS-RTU protocol, standard asynchronous serial two-wire RS485 communication port, and the time interval of reading LD100 data by upper computer is not less than 500 ms, the recommended value is 1 s.The default device address of LD100 is 01, which can be changed by PC instruction or LEAK-Talk debugging software.

Communication parameters

Data transfer rate:	Baud rate 9600 BPS
Data transmission format:	N (parity check), 8 (data bit), 1 (stop bit)
Device default address:	01
Rs485 wiring port:	Standard two-wire asynchronous communication, 8 RS+, 9 RS-

Ld100 Protocol Content

(1) Send the command:

address	function code	Data start bit (high + low)		Number of data (high + low)		CRC16 check
1 byte	1 byte	1 byte	1 byte	1 byte	1 byte	2 byte

(2) Equipment return information:

address	function code	Byte length	Data value (high + low)		CRC16 check
1 byte	1 byte	1 byte	1 byte	1 byte	2 byte

(3) Protocol data:

function code	Register bit	Data address	Number of data	Data value definition
04H	30001	0000H	1	Device Address Code: 01-255
	30002	0001H	1	Query equipment status: 00 normal, 02 alarm
	30004	0003H	1	Inquiry Relay Status: 00 Relay Disconnected, 01 Relay Inhaled
06H	40001	0000H	1	Modify device address: 01-255
	40004	0003H	1	Control Relay: 00 Relay Disconnected, 01 Relay Suction

Example

content	dispatch orders	Return information	Explain
Read device address:	01 04 00 00 00 01 31 CA	01 04 02 00 01 78 F0	The device address is 01
Read device status:	01 04 00 01 00 01 60 0A	01 04 02 00 00 B9 30	The equipment is in normal condition.
Read relay status:	01 04 00 03 00 01 C1 CA	01 04 02 00 00 B9 30	Relay disconnection
Modify device address:	01 06 00 00 00 C7 C8 58	01 06 00 00 00 C7 C8 58	Modify device address to 199
Modify relay status:	01 06 00 03 00 01 B8 0A	01 06 00 03 00 01 B8 0A	Control relay suction

Note: The LEAK−Talk_100 debugging software can easily set up the detection module.Please get relevant information from the sales staff.

Important: All information in this article, including illustrations, is believed to be true and reliable. However, users should independently judge the suitability of each product based on their specific use. In no event shall LEAKSENSE or its distributors be liable for incidental, consequential or consequential damages arising out of the sale, resale, use or misuse of the product. Product specifications or production processes are subject to change without notice.