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▶ Positioned leak detection module.

▶ Up to 1500 meters of detection cable can be connected.

▶ The LCD displays the device status and the leak alarm location.

▶ Modbus communication protocol for remote alarm and control.

Easy to set up, easy to operate

■ The ATL700 detection module can detect the leakage of water, acid and alkali, oil and other liquids. The connection cable can be connected up to 1500 meters. When a liquid leak is detected, the leak position is displayed on the LCD screen and the relay alarm signal is output.

■ The ATL700 module can be used as a stand-alone detection alarm unit or networked with other ATL700 modules. The module can communicate with other monitoring systems or host computers through standard communication protocols to achieve remote alarm and remote device control.

■ The ATL700 module can be configured with a Microsoft Windows-based PC with its own configuration software.

Multi-purpose design

■ The alarm relay output can be selected in a variety of linkage modes, and can be selected from the normal state or the normal power-off mode.

■ The LEDs indicate power, leakage, cable faults, and communication status; the LCD screen shows where the leak occurred.

■ The power supply is available in 12VDC, 24VAC, and 220VAC power supply models.

■ Serial RS-485 communication can be up to 1200 meters, which can be monitored centrally.

■ The detection module has a dedicated address assigned by the software and does not require a dial switch.

■ Convenient DIN35mm rail mounting.

Technical Description

Detection cable	Compatible with ASC6100, ASC3100, ASC9100 positioning detection cable
Detect cable length	The maximum cable length is 1500 meters
Physical dimension	White fireproof ABS, IP55 waterproof grade, quality 200g, size L70*W86*H58mm
Detection sensitivity	0-50K stepless adjustment, arbitrary sensitivity selection, wide detection range
Accuracy	Detection error is less than 2% of cable length
Power requirement	12VDC or 24VAC or 220VAC AC power supply, operating current less than 1A
Relay output	1SPDT, rated power 220VAC/2A (normally open normally closed)
Protocol	Rs485 serial interface (two-wire network), MODBUS-RTU communication protocol

certified product

The ATL700 test module has been approved by CE and CAS for use in non-hazardous areas.

Five years of free quality warranty commitment after installation of the ATL700 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 – ⑥ RS485 COMMUNICATION INTERFACE

Rs485 interface, 1-3/4-6 two groups are connected in parallel,Can be connected arbitrarily. SHL is not shielded
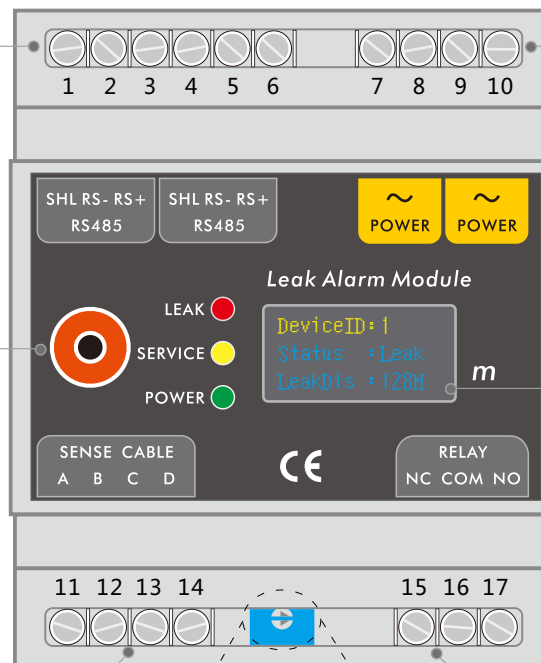**** Please read the product communication protocol for specific operations.**

⑦ – ⑩ POWER INPUT

Module has 12VDC or 24VAC or 220VAC Three supply voltage models, 7-8/9-10 two groups are connected in parallel, You can connect a group without any line order.

1 2 3 4 5 6   7 8 9 10

SHL RS- RS+ RS485   SHL RS- RS+ RS485   ～ POWER   ～ POWER

Leak Alarm Module

LEAK ●   SERVICE ●   POWER ●

DeviceID:1
Status   :Leak
LeakDis :128M   **m**

SENSE CABLE A B C D   CE   RELAY NC COM NO

SERVICE

Maintenance indicator
The cable connection loop is broken.
Or when the cable status is abnormal.
Yellow light is on

RESET

Mute reset button
Manually eliminate alarm sounds
And reset alarm status

POWER

Power Indicator
Always light green when working

LEAK

Leak indicator.
When the cable meets the water alarm.
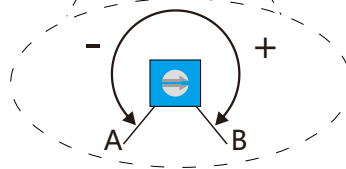And reach the alarm sensitivity value.
When the red light is on.

LCD DISPLAY

Display device address code.
Display device current status.
Display cable when alarming.
The number of meters in the leak position.

11 12 13 14   15 16 17

⑪ – ⑭ DETECTION CABLE

Connection detection cable
11-A red, 12-B green
13-C yellow, 14-D black
According to the color line of the leader line

– + A B

⑮ – ⑰ ALARM OUTPUT

Relay dry contact signal output,
15-NC normally closed,
16-COM public end,
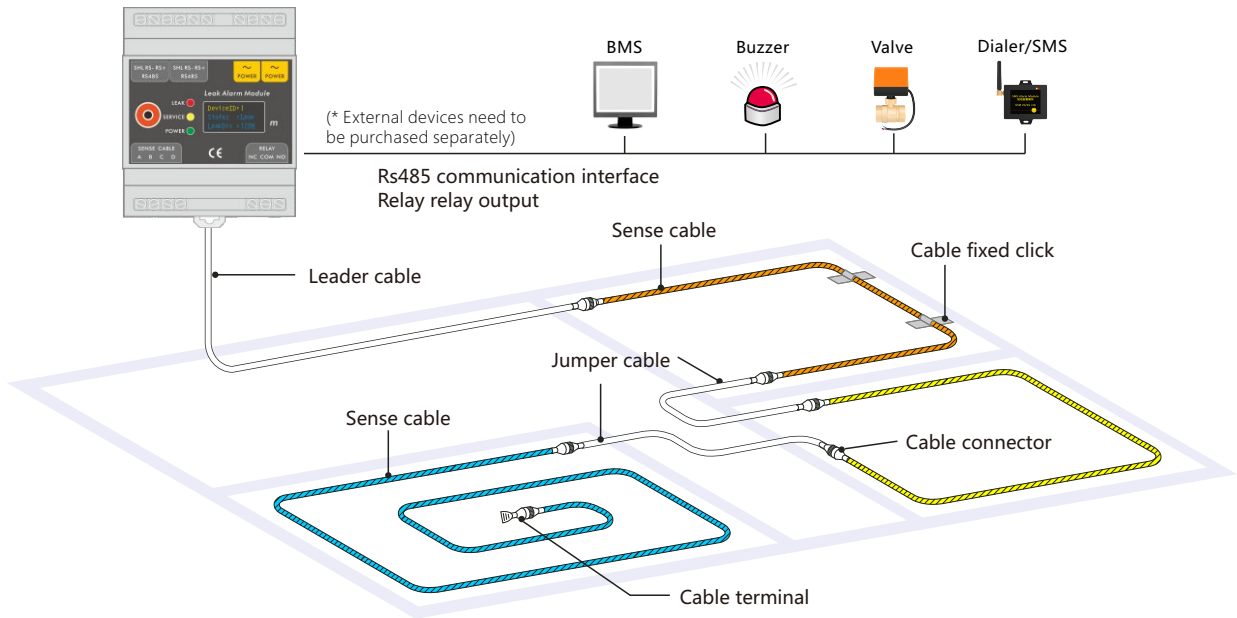17-NO normally open
Rated power 220VAC/2A

SENSITIVITY ADJUSTMENT

Increase sensitivity clockwise and reduce sensitivity counterclockwise
A position requires more water to trigger an alarm
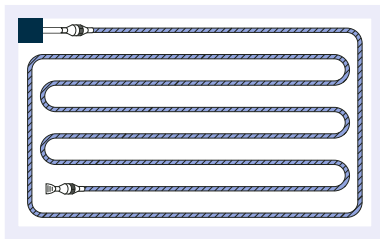B position water droplets can trigger an alarm

REMARKS:

1. The maximum detectable cable length of the detection module is 1500 meters (excluding the lead wire and jumper cable).
2. the leak alarm display position is calculated according to the starting sequence of the detection cable, that is, the length of the detection module toward the end of the cable.
3. The detection sensitivity is set to the normal value at the factory, and the device address defaults to 01.
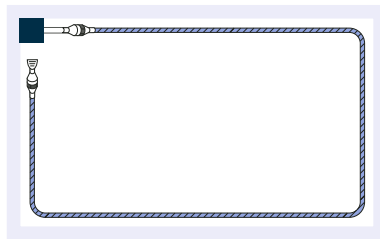4.the detection module is not waterproof design, please use the waterproof installation box for special environment.

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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

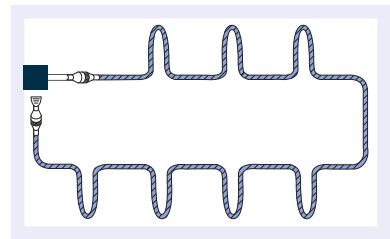Sense cable

Cable connector

Cable terminal

Detecting cable layout

Full coverage
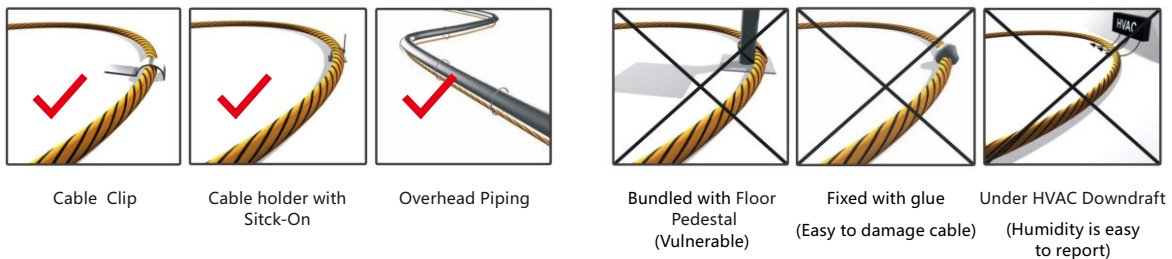A full range of protection
for critical region

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

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

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.

Overview

The ATL700 communication protocol adopts the standard MODBUS-RTU protocol, the standard asynchronous serial two-wire RS485 communication port, and the time interval for the upper computer to read ATL700 data is not less than 500ms, and the recommended value is 1s.

The ATL700 factory default device address is 01, and the device address can be changed by the host computer command or LEAK-Talk debugging software.

Communication parameters

Data transfer rate:	Baud rate 9600bps
Data transmission format:	N (parity), 8 (data bits), 1 (stop bit)
Device default address:	01
Rs485 wiring port:	Standard two-wire asynchronous communication, RS+, RS- (SHL is cable shielding ground, can not be connected)

ATL700 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) 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) Agreement data:

function code	Register bit	Data address	data	Data value definition
04H	30001	0000H	1	Device address code: 01-255
	30002	0001H	1	Equipment status: 00 normal, 01 broken line, 02 leak, 03 broken line + leak
	30003	0002H	1	Leakage positioning value: This value is divided by the resistance of the able unit, that is, the number of meters in the leak position, no leakage when FFF
	30004	0003H	1	Detecting cable length: This value is divided by the measured cable unit resist ance, that is, the total cable length is detected.
	30005	0004H	1	Relay alarm mode: 00 no action, 01 disconnection action, 02 leakage action, 03 leakage and disconnection action
	30006	0005H	1	The value is converted to decimal and divided by 10, that is, the resistance of the cable unit is detected. The default is 13.0 Ω/m.
06H	40001	0000H	1	Modify device address: 01-255
	40005	0004H	1	Set relay mode: 00 no action, 01 disconnection action, 02 leakage action, 03 leakage and disconnection action
	40006	0005H	1	Set the detection unit resistance value, which can be fine-tuned according to the detection error, generally between 12.5~13.5

Instance

content	send command	returned messages	Description
Read device status:	01 04 00 01 00 01 60 0A	01 04 02 00 00 B9 30	Leak alarm status
Read the leak location:	01 04 00 02 00 01 90 0A	01 04 02 00 26 38 EA	Detecting cable leakage at 38 meters
Modify device address:	01 06 00 00 00 C7 C8 58	01 06 00 00 00 C7 C8 58	Device address 01 is changed to 199
Set the relay mode:	01 06 00 04 00 03 88 0A	01 06 00 04 00 03 88 0A	Relays are alarmed when leaking and disconnecting
Set the cable unit resistance:	01 06 00 05 00 85 58 68	01 06 00 05 00 85 58 68	Set the cable unit resistance to 13.3 ohms / meter