

controller use manual



Ver 1.0

Installation/Operation Instructions

General information

Please read these instructions and keep them in a safe place. These instructions must be followed carefully to ensure proper operation.

The A-LLM1 has been designed for use with leak sensing cables, point sensors and normally open, dry contact devices (float switch, pressure or vacuum switch, optical probe with adapter, limit switch, etc.). Up to 1500M (5000 ft) of sensor cable can be monitored by the A-LLM1. Contact factory for information regarding longer monitoring distance.

The A-LLM1 is designed for installation in ordinary (non-hazardous) areas. The A-LLM1 has five small LED's to indicate power, status and communications activity, as well as a relay with SPDT contacts. Once detected, A-LLM1 liquid leakage positioning controller which produces the acousto-optic alarm, digital tube shows leakage location, and starter relay, produces the machine without voltage contacts closed, A-LLM1 leak positioning controller using modbus RTU agreement programming, convenient and monitoring system integration. The A-LLM1 can be used as a stand-alone leak detection alarm, or connected to a host system (computer, or control automation system) via simple, twisted pair RS-485 serial communication wiring.

Suitable for checking the machine room base station, warehouse, libraries, museums and the industrial field in important places such as real-time leakage detection.

Product features:

- LED indicates power supply, leakage alarm, sensing cable faults and communication state.
- It can record 32 leakage alarm data records.
- Practical reliable twisted pair serial RS-485 communication mode. And as far as communication distance up to 1200 m, programming agreement is the standard of industrial modbus agreement.
- 12V DC power supply, no polar access.
- The communication baud rate and address can be set through the test software.
- The SPDT relay's output form to often open closed coexist freedom of choice.
- Good ESD, and surge transients immunity technology, guaranteed that the reliable operation of the A-LLM1.
- It is very easy to be installed with DIN rail or enclosure.

Basic characteristics

compatibility	A-LLW1000 sensor cable and TraceTek leak detecting sensor cables or the same type sensing cables	
Sensor cables maximum length	1500M	
Accuracy	Sensor cable's length of $0.5\% \pm 0.5m$	
Environmental rating	Storage temperature	-40 °C~60 °C (0 °F~140°F)
	Operating temperature	-20°C~50 °C (32 °F~122°F)
	Operating humidity	5%~95% (No condensation)

Power supply

12VDC, 3W

Serial Interface	Network configuration	RS-485 communication mode, baud rate can be chosen, optional address for 0 to 247, the factory default baud is 9600, and address is 0
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Programming agreement

MODBUS RTU

Relay contacts

AC125V, 0.5A, DC24V, 1A。
To often open, closed can be chosen

Installing the A-LLM1

Note: To avoid damage to the A-LLM1, store the unit in its packaging until ready to install.

Selecting the mounting position

Choose a location where the module will be protected from the elements, temperature extremes or heavy vibration. The A-LLM1 is designed to be snapped onto standard 35 mm DIN rail. Existing electrical or instrumentation cabinets with spare rail space make good mounting locations. It is also possible to install a small section of DIN rail directly on a wall or cabinet surface and mount the A-LLM1 in any location as long as it does not create a tripping hazard or expose the A-LLM1 to impact damage. The A-LLM1 should be mounted within 1200m wire run from the control system host. Contact the factory for methods to increase the wire run distance beyond 1200m.

Important: The A-LLM1 is an electronic unit. Take the following precautions to avoid damage to electronic components:

- Handle with care and avoid mechanical shock and impact.
- Keep dry.
- Avoid exposure to static electricity by touching a nearby piece of grounded equipment or water pipe prior to handling the A-LLM1.
- Avoid contact with metal filings, grease, pipe dope and other contaminants.

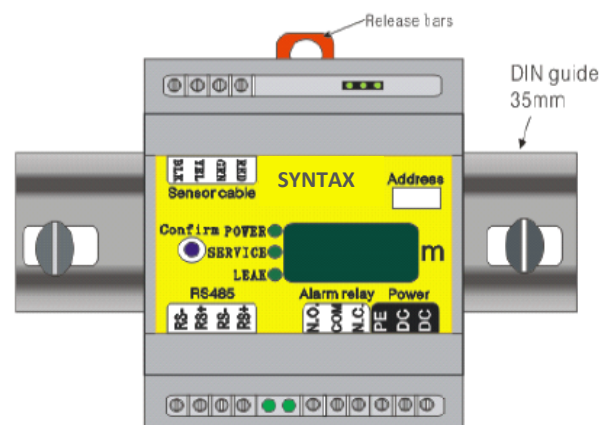


Figure 1: DIN rail mount

Mounting the A-LLM1 module

- Secure a sufficient length of DIN rail to the desired mounting surface, or locate and existing DIN rail with sufficient space to install the A-LLM1.
- Remove the A-LLM1 from its packaging and snap onto the DIN rail with the release Tab towards the bottom. Shown in Figure 1.

Connections for Power and Telemetry

A-LLM1 communicates all alarm and status messages Via RS-485 twisted pair telemetry. Two of the four conductors in the power/telemetry cable are used for telemetry and the other two may be used to provide the supply voltage. Alternatively, separate wiring may be used for the supply voltage, as shown in Figure 2.

The A-LLM1 can be supplied DC12V access (DC two terminals), PE terminal for power ground (not the power negative), can achieve good access to power ground of anti-interference ability. The specific method of pick up what is shown in the Figure 2

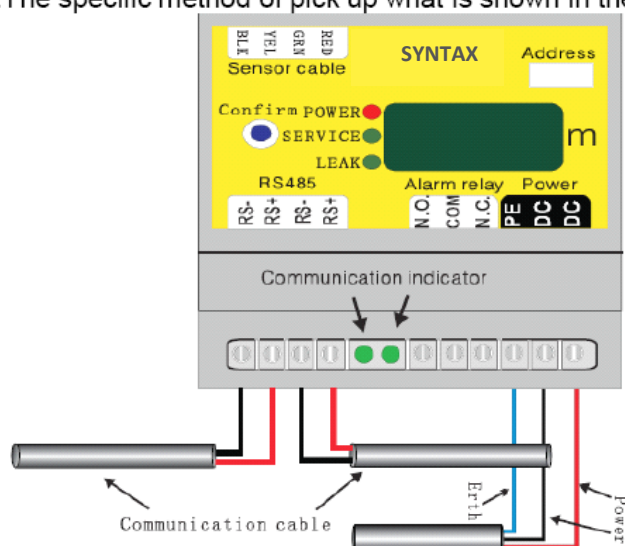


Figure 2 :Power and Telemetry Connections

Connections for Alarm Relay

A-LLM1 of relay contacts can be used for local or remote alarm, or control valve or other devices, also can control automation system contacts input connection. It only for leakage alarm relay. The relay has to often open, closed two kinds of state, the user can choose by the way. Alarm signal see the table below.

Wiring combination	Alarm condition	Output state
N.O.—COM	No alarm	open
	alarm	closed
	Lose power	open
N.C.—COM	No alarm	open
	alarm	closed
	Lose power	open

Leader Cable Connections for Sensor

The A-LLM1 can be used with the A-LLW1000, or any of the similar leak detecting sensing cables. Connect the leader cable to the A-LLM1 as shown in Figure 3.

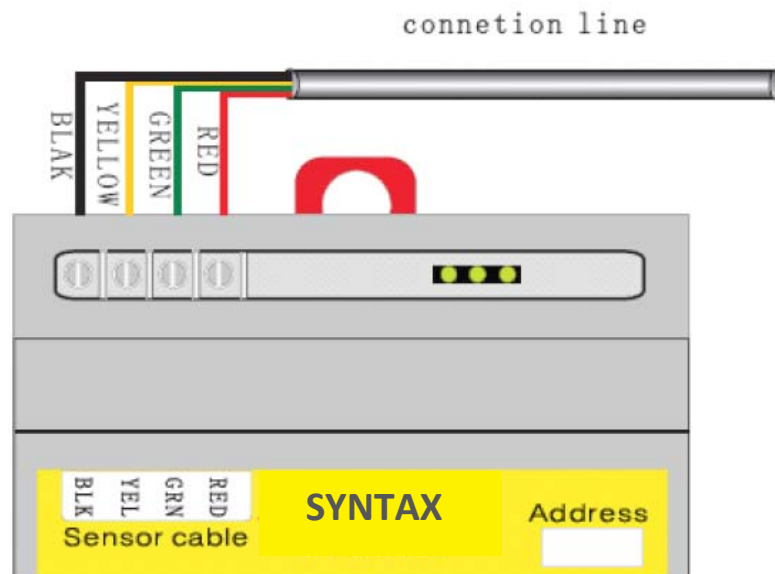
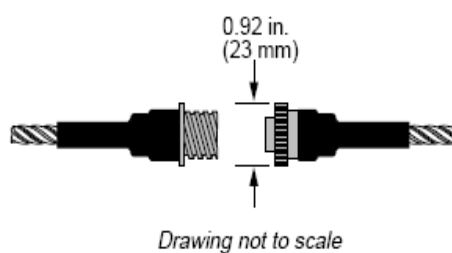
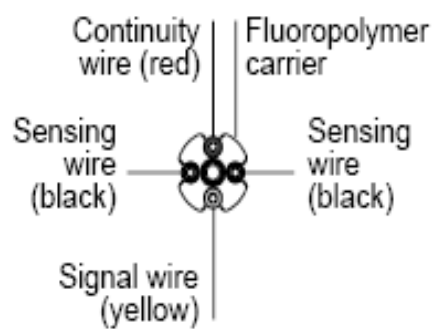
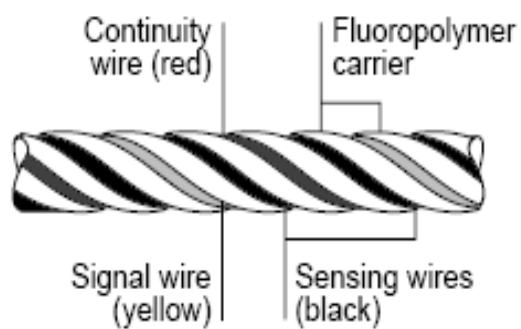


Figure 3:connection line (leader cable)

Leak positioning sensor cable





End terminal



connection wire



Fixed glue stick a clip

