



คู่มือการใช้งาน

ADDRESSABLE WATER LEAK DETECTION

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Danger and warning!

This device can be installed only by professionals.

The manufacturer shall not be held responsible for accident caused by the failure to comply with the instructions in this manual.

Risks of electric shocks, burning, or explosion

This device can be installed and maintained only by qualified people.

- Before operating the device, isolate the voltage input and power supply and short-circuit the secondary windings of all current transformers.
- Use appropriate voltage tester to make sure the voltage has been cut-off.
- Put all mechanical parts, doors, or covers in their original positions before energizing the device.
- Always supply the device with the correct working voltage during its operation.

Failure to take these preventive measures could damage to equipment or injuries to people.

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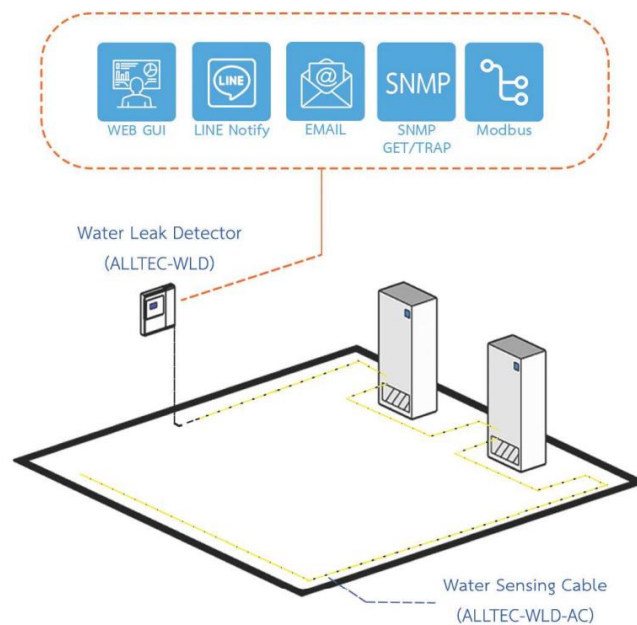
1. Introduction

The Addressable water leak detector (ALLTEC-AWLD) is designed to raise an alarm when water touches the leak sensing cable and send notifications to the operator immediately. User for detect water leakage at risk areas and unseen areas. For example, around Air Conditioning Unit, under raised floor, because these areas are very critical. Water Leak Detector works by using sensing cable, to identify water pooling.

1.1 Product Features

- Web GUI For dashboard and configuration.
- Mapping leakage alarm address from meters 1 decimal to zone name for display and notification
- Onboard audible and LED indicator.
- Internal storage for store historical data 1,000 records, can be exported as a XLS or CSV files
- Alarm notification with Email and LINE Notify
- LCD 3.5" with touch screen for display status and historical data

1.2 System Structure



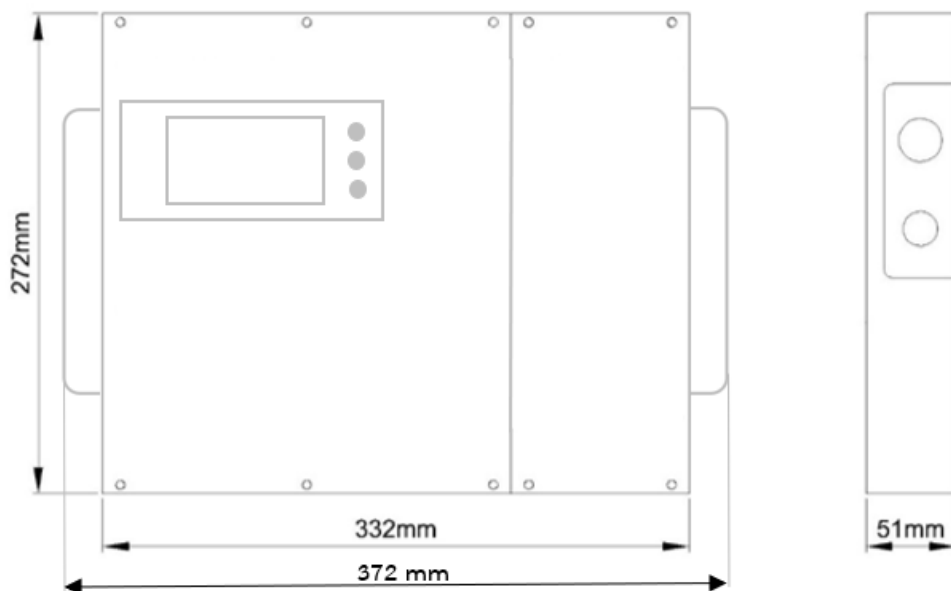
2. Installation and Wiring

Addressable water leak detector is divided into a detector module, Data cable, Sensing cable, Terminal end.

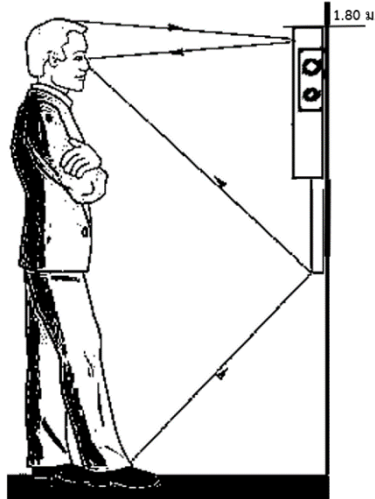
2.1 Installation Addressable water leak detector module

2.1.1 Mounting on the wall and dimensions

The ALLTEC-AWLD is designed to be mounted on a wall. The figure below shows the dimensions for each size.



We are recommend fixing to height ranging between 1.50m and 1.8 m to allow a comfortable height to see the display.



Open the cover of the wall-mounted to reach the motherboard which is fixed to the interior of the casing (as shown below):



2.1.2 Environmental conditions

Avoid installing the controller and the terminal in places with:

- exposure to direct sunlight and to the elements in general.
- temperature and humidity outside the product's range of operation (see "Technical Specifications")
- large, rapid fluctuations in room temperature.
- strong magnetic and/or radio frequency interference (avoid installing near transmitting antennas)
- strong vibrations or knocks.
- presence of explosives or flammable gas mixtures.
- exposure to aggressive and polluting atmospheres (e.g., sulfur and ammonia vapors, salt mist, fumes) that can cause corrosion and/or oxidation.
- exposure to dust (formation of a corrosive patina with possible oxidation and reduced insulation).
- exposure to water

Important:

- For safety reasons the controller should be installed inside an electrical panel so that the only accessible parts are the display and the built-in terminal's keypad.
- When laying out the wiring, separate as much as possible the probe cables, digital input cables and serial line cables from the power cables (connected to contactors, thermomagnetic devices, etc.) avoid electromagnetic interference.
- Never run power cables and probe signal cables in the same conduits
- For data sensing cables, If the control cables have to cross over power cables, the intersections should be as close as possible to 90 degrees; under no circumstances should the control cables be laid parallel to the power cables.
- Avoid making spiral paths that enclose power devices.
- In case of malfunctions do not attempt to repair the device but contact service Centre.

2.2 Electrical installation

⚠ Important: Before servicing the equipment in any way disconnect the controller from the power mains by putting the system's main switch on OFF.

Make sure the system is provided with a power disconnect conforming to regulations. Use cable lugs that are suitable for the terminals used. Loosen each screw and insert the cable lugs, then tighten the screws. For information on the tightening torque and maximum allowable length of the connections please refer to the "Technical Specifications" table. In environments subject to strong disturbance use shielded cables with the braiding bonded to the earthing conductor in the electrical panel. After making the connection, gently tug on the cables to make sure they are sufficiently tight.

Note:

secure the cables connected to the controller with clamps placed at 3 cm from the connectors.

If the power transformer's secondary winding is earthed, make sure the earth conductor is bonded to the conductor that goes to the controller and is connected to terminal GND. This applies to all the devices connected to the controller through a serial network.

⚠ Important:

Avoid touching or nearly touching the electronic components mounted on the boards to avoid electrostatic discharges from the operator to the components, which can be very damaging.

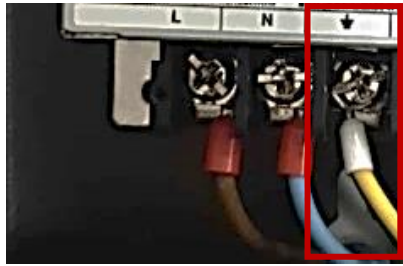
Do not press the screwdriver on the connectors with excessive force, to avoid damaging the controller.

Using the device in any way other than specified by the Manufacturer can compromise its protection system.

Use only optional boards and connectors supplied by ALLTEC.

2.2.1 Connecting ALLTEC-AWLD unit to the earth.

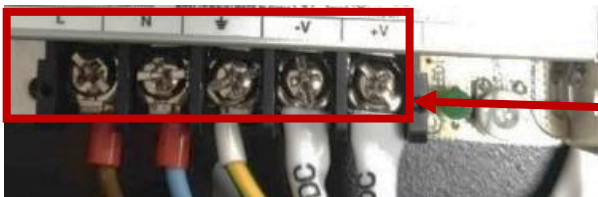
⚠ Important: Respect the rules for Electromagnetic Compliance and Electrical Safety: It is necessary to connect the Protective Ground (PE) to the AC Power terminal connector!



⊕ ground wire (G)

2.2.2 Connecting the power supply.

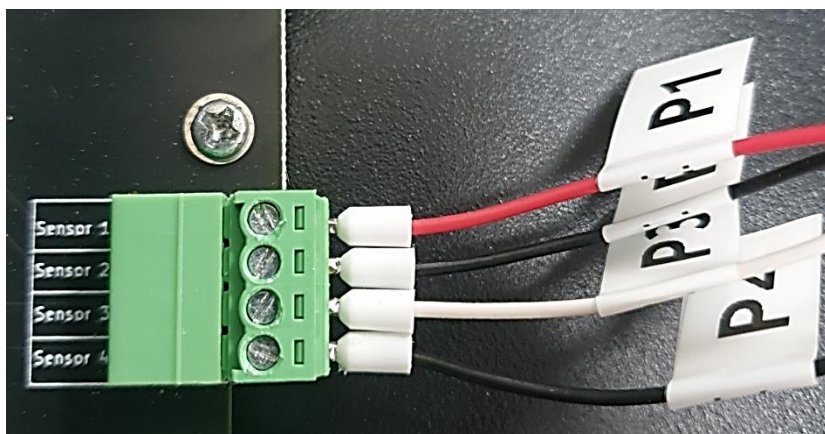
⚠ Important: Prior to connecting the power, please ensure the mains cord is disconnected from any source of electrical energy



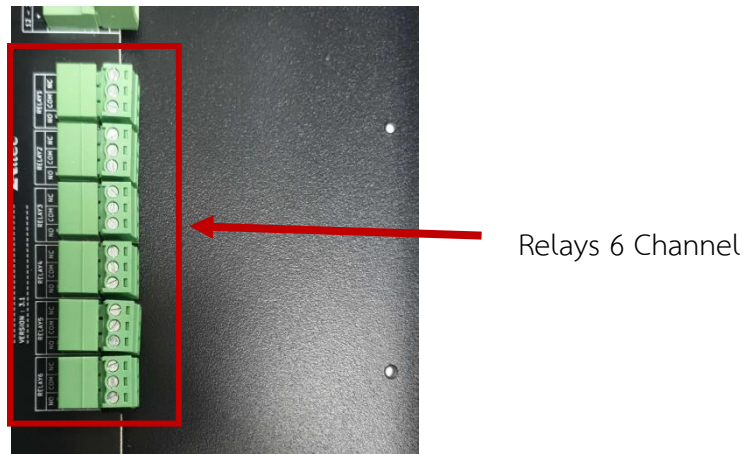
-V	DC Output (-12 V)
+V	DC Output (+12 V)
⊕	ground wire (G)
L	Live (L)
N	Neutral (N)

2.2.3 Connecting the leader cable WLD-D1

Each circuit of sense cables (P1, P2, P3, P4) is connected to the ALLTEC-AWLD with a leader cable.



2.2.4 Connecting the relays.



2.3.4 Connecting the serial cable.

To improve the controller's immunity against electromagnetic interference, the serial connection cable should be a shielded twisted pair cable, 2-pole or 3-pole depending on the insulation of the serial connection. The following rule applies:

- if the serial port is isolated (functionally) from the power supply, a third wire is required in the serial cable to act as a common reference for the controllers. If the serial port is not optically isolated and the common reference is already present, no third wire is required.

Technical specifications for connections

Hardware RS485

Use a shielded, twisted pair cable (AWG 20-22) with inter-conductor capacitance $<90\mu\text{F}/\text{m}$.

Number of devices on bus 32 unit loads maximum.

Note: In case of a Master-Slave network the max. Allowable length is 1000 m. if the network is longer than 100 m, apply 100 Ohm, 1/4W terminating resistors to the first and last devices in the network.

2.2 Installation Addressable Sensing cable

2.2.1. Hold-down adhesive clips with adhesive

the sense cables are fixed to the earth with adhesive clips.

The first stage of the installation consists of sticking these clips to the earth using the adhesive provided.

Recommendations:

1. To ensure the cable sticks correctly to the earth, alternate the direction of the clips on the earth.
2. The clips must be spaced approximately 1 meter apart.
3. Wherever there is a curve of the trajectory, stick 1 clip the entry point and a second at the exit point of curve.
4. Please wait for the clips to be completely dry (two to three hours), before installing the sense cables.
5. When fixing the sense cables into the clips, keep a length of approximately 15 cm between the connector and the clip.



2.2.2 Installing sensing cable ALLTEC-WLD-AC.

Unroll the entire length of the sense cable and place in the clips fixed on the floor before installation.

The leader cable WLD-D1 is connected to the ALLTEC-AWLD Unit. The sense cable starts with a male connector and ends with a female connector.

1. Connect the first sense cable to the leader cable (coming from the ALLTEC-AWLD Unit).
2. It is recommended that you avoid placing the cables in direct contact with the jacks (on the raised floor), the cable trays, any other obstacles.
3. Take care to circumvent the air-conditioning system (at distance approximately 50 cm), to avoid false leak alarms related to harmless water projections.
6. Tags must be placed along the length and spaced approximately every 3 meters.
7. finish the circuit with a modular end termination plug.

2.3 input/output labels.

Label	Descriptions
12 - 24 VDC	Power supply Input 12 – 24 VDC
NO	Relay output, normally open contact
NC	Relay output, normally close contact
COM	Relay output, common
Sensor...	Sensing cable
RS485 A/B	Serial port RS485



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