

**C SYSTEMS PVT LTD**

**WATER LEAK LOCATOR SYSTEM**

**AWLD2400**

**USER MANUAL**

**INTRODUCTION:**

The Water Leak Locator System is used to locate the leak alarm from Water Leak Locator Modules and displays that information in a 4 x 20 alphanumeric LCD display. The events are received by the third party BMS through RS485 (MODBUS protocol) communication. This system supports up to 32 Water Leak Locator Modules.

**INSTALLATION:**

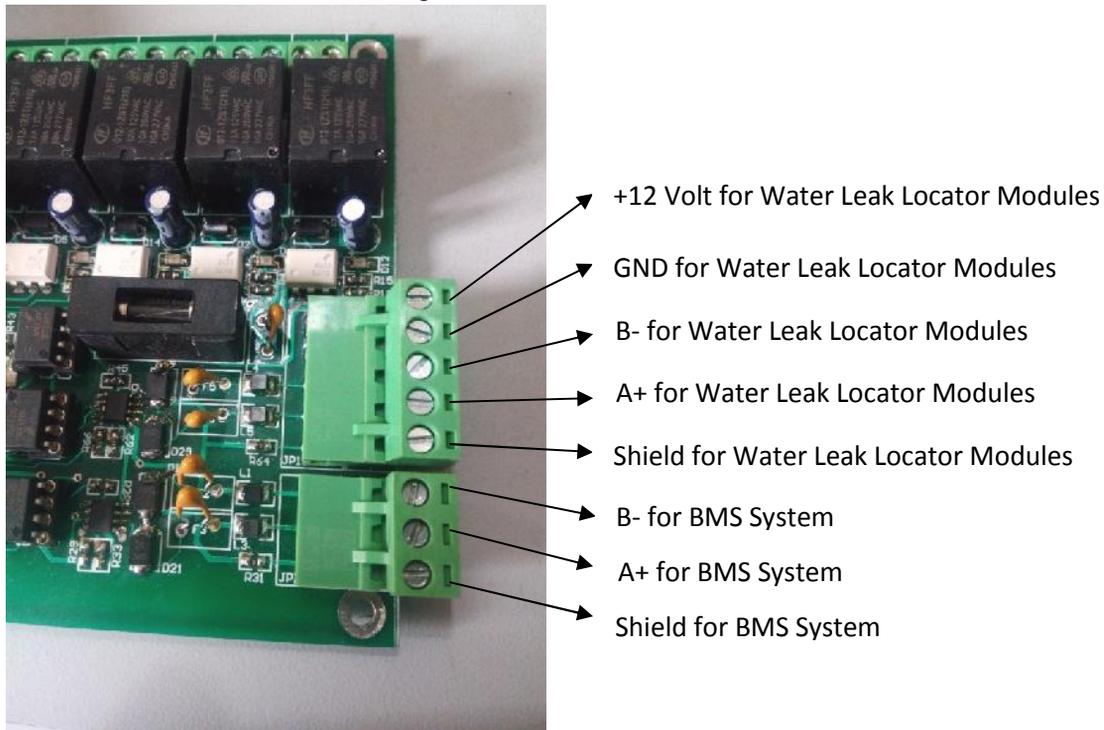
The Water Leak Locator System panel shall be mounted on the wall. The panel has inbuilt 12 Volts / 5 Amps power supply (SMPS).

**Use 4C x 1.5 sq mm, shielded cable to extend the connection from Water Leak Locator System to Water Leak Locator Modules.**

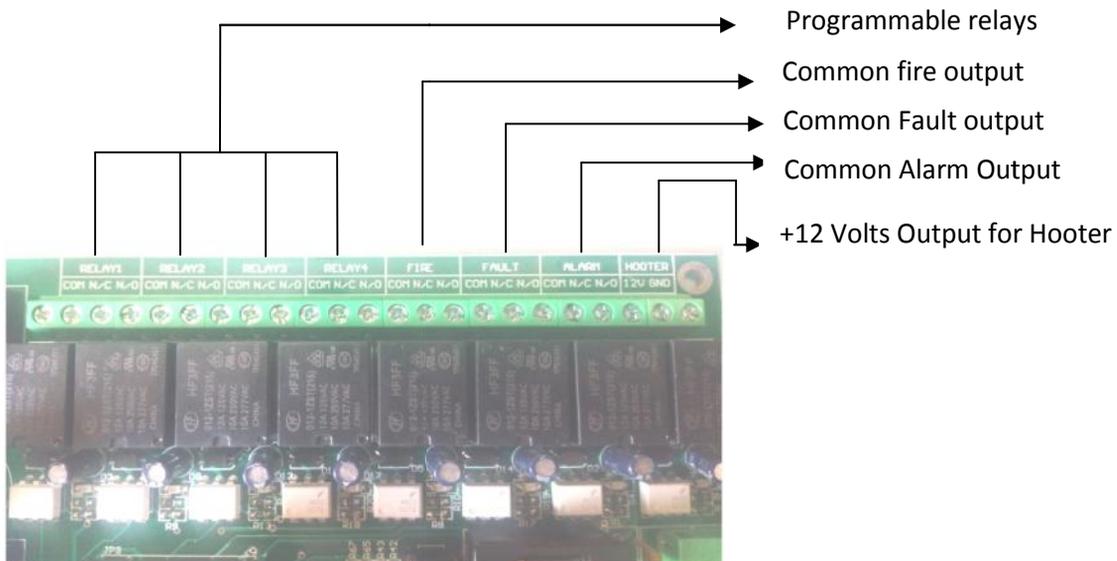
In the 4 core shielded cable, two cores are utilized to power up the module and remaining two cores are utilized for extend RS485 communication.

**WIRING CONNECTION:**

The terminal connections for power and communication (RS485) in the water leak locator panel are given below. Also the connection terminals for BMS integration are shown below.



The connection terminal for potential free output for BMS system and potential output (12 Volt) for hooter is given below:



### OPERATION:

The AWLD2400 panel continuously gathers information of all modules and updates that data in LC Display and also to BMS system through RS485 (MODBUS protocol). This system can manage up to 32 Water Leak Locator Modules.

In the Main screen, the display shows following information.

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WATER LEAK LOCATOR	
SITE NAME	
06/07/16	01:28 PM

- The display shows current date & time and name of the site.
- To commission AWLD2400 panel, total number of AWLDM32 Modules Quantity has to be entered. A “Beep” sound will be generated until the modules quantity entered.
- The date & time, site name and module name are programmable.
- There are four LEDs in front facia of the panel to indicate the status of power, fault, service and alarm.
- There are 7 potential free output to indicate the status of fault and alarm and one potential relay output (12 Volts) for hooter.

### Operation of LEDs and Relays:

- Power LED
- Fault LED
- Service LED
- Alarm LED
- Relay 1 (programmable)
- Relay 2 (programmable)
- Relay 3 (programmable)
- Relay 4 (programmable)
- Fire relay
- Fault relay
- Alarm relay

To activate the hooter, dedicated hooter terminals are provided with 12V & ground, which can be connected to hooter directly. While the system operates on Mains power, the power LED will glow constantly. When the system operates on internal battery power, the power LED will not glow. When any one of the configured modules fails to communicate with AWLD2400, the fault LED will glow, the buzzer will generate “Beep” sound and the fault relay will be turned on.

There are two types of service request that can be occurred because of modules.

- Cable length not updated in module
- Sensor cable Break open / not connected

When anyone of the above said service request occurs in any of modules, the service LED will glow, the buzzer will generate beep sound and the fault relay will be turned on. To view the service faults, please refer Menu sub topics.

When anyone of the module triggers an alarm, the alarm LED is indicated in the AWLD2400 panel. Hooter relay, alarm relay, fire relay and buzzer will be activated. The display shows the alarm message with Module ID, Module name, and Distance of leak occurred from that module with higher priority. For multiple leaks, the display shows the alarm message of each module for every 2 seconds. After the successful location of leak is addressed & source of leak is identified, the sensor cables shall be cleaned with clean dry cloth.

### Operations of Mute and Reset key:

To silence the Buzzer output & Hooter, **MUTE** key shall be pressed. To reset the Alarm condition, after clearing the leak and cleaning the sensor cable, **RESET** key shall be pressed.

### To enter module quantity, follow the procedure given below:

1. Press **ENTER** key to go to select option page. There are three options.
2. Press **M** key to go to configuration menu page.
3. Press **3** key to go to modules quantity edit page. Enter the number of modules to be connected to the system. The value should be less than or equal to 32.

4. Press **ENTER** key to save the quantity of modules or press **EXIT** key to exit from modules quantity edit page without saving.

**To enter site name, follow the procedure given below:**

1. Press **ENTER** key to go to select option page. There are three options.
2. Press **M** key to go to configuration menu page.
3. Press **1** key to go to designation page.
4. Press **1** key on designation page to go to Edit site name Page.
5. Press **ENTER** key to save the site name or press **EXIT** key to escape from site name edit page without saving.

**To enter module name, follow the procedure given below:**

1. Press **ENTER** key to go to select option page. There are three options.
2. Press **M** key to go to configuration menu page.
3. Press key '**1**' to go to designation page.
4. Press key '**2**' on designation page to go to "Module Name" edit page. Before pressing key '**2**', the modules quantity should be entered. If modules quantity value is not present, the system will force to enter the modules quantity and doesn't allow going to module name edit page.
5. Press **ENTER** key to save the module name or press **EXIT** key to escape from module name edit page without saving.

**To set date and time, follow the procedure given below:**

1. Press **ENTER** key to go to select option page. There are three options.
2. Press **M** key to go to configuration menu page.
3. Press key '**2**' to go to system parameter page.
4. Press key '**1**' on system parameter page to go to clock settings page.
5. Press key '**1**' on clock settings page to go to date edit page. We can edit date, month and year in this page. Or press key '**2**' on clock settings page to go to time edit page. We can edit hour, minute, seconds and meridian in this page.
6. Press **ENTER** key to save date or time or press **EXIT** key to escape from date edit page or time edit page without saving.

**To set slave device ID for AWLD2400 (communication with BMS), follow the procedure given below:**

1. Press **ENTER** key to go to select option page. There are three options.
2. Press **M** key to go to configuration menu page.
3. Press key '**2**' to go to system parameter page.
4. Press key '**2**' on system parameter page to go to "Device ID" page. We can edit device ID in this page. The device ID should be less than or equal to 250.
5. Press **ENTER** key to save device ID or press **EXIT** key to escape from device ID edit page without saving.

**To test the modules (whether all are communicating with this system), follow the procedure given below:**

1. Press **ENTER** key to go to select option page. There are three options.
2. Press **T** key to go to test the modules. Before pressing key **T**, the modules quantity should be entered. If modules quantity value is not present, the system will force to enter the modules quantity and doesn't allow going to test the modules.
3. If all modules are communicating properly with this system, the display will show the module ID and corresponding cable length. By using **UP** and **DOWN** key, we can see all modules ID and corresponding cable length.
4. If any one of modules is not communicating properly, the display will show the error message with the ID of not communicated module.

**To check the fault condition of modules, follow the procedure given below:**

1. Press **ENTER** key to go to select option page. There will be three options.
2. Press **F** key to go to check the fault condition of modules. Before pressing key **F**, the modules quantity should be entered. If modules quantity value is not present, the system will force to enter the modules quantity and doesn't allow going to check the fault condition of modules.
3. If no fault is occurred, the display will show message that no fault event present.
4. If any one of modules is under fault condition, the display will show the fault message with the module ID and module name. If more than one module is under fault condition, we can see all fault modules ID and corresponding name by using **UP** and **DOWN** key.