

# ZD-18

## Liquid Detection Alarm System

### Quick Installation Guide

Informational Reference for Authorized Installers and Fitters

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#### 1. Overview :

ZD-18 is a Non-Allocating Liquid Detection Alarm Device with local User Panel and Alarm Notification.

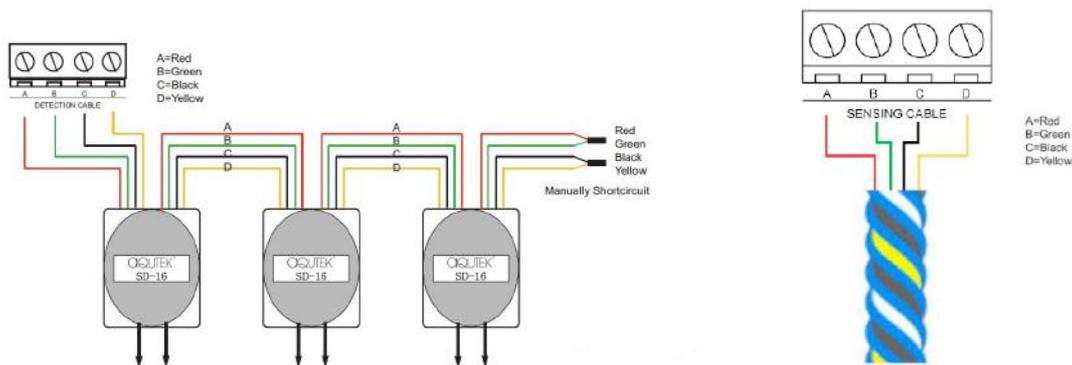
Main Features :

1. 12-24V AC/DC or AC Mains Power Input.
2. Built In Audible Alarm (Loud Beeper)
3. Gradually adjustable sensitivity to fit any environmental conditions (using variable resistor)
4. NO/NC Normally Energized "Fault" Output Relay
5. NO/NC "Leakage" Output Relay
6. Device can work as an individual Unit or as a part of a Liquid Leak Detection Network.

#### 2.1 Connecting Sensing Cable :

ZD-18 can work with various types of liquid detection sensors. Most common types are: Sensing Cable and Spot Water Detector. Each of them have 4 color-coded wires which must be connected correctly to the Unit, otherwise false alarms or malfunction will occur. Each color should correspond to each of the Alphabetic Letters on the Connection Block—ABCD.

Liquid sensor has 2 electrical loops in its circuit and each loop must be connected to each pair: A-B and C-D. Standard Color-Coding is: A-Red, B-Green, C-Black, D-Yellow. However, other colors can also be there. Before connecting the wires, please check the Sensor with a Resistance Meter to ensure that A is internally connected with B and C is making a circuit with D. Please follow the Diagram below for Sensor connecting and testing.



#### 2.2 Connecting Multiple Sensors :

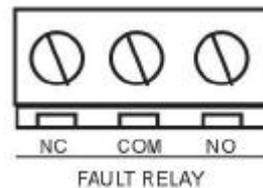
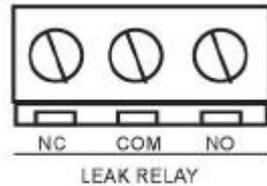
In case of connecting multiple spot sensors in series, the last sensor in the chain must be End-Terminated. For this simply need to short-circuit 2x2 wires as shown in the Diagram. Wire A to be connected with B, C with D. After connection of wires, the wire contacts must be securely insulated to prevent possible water contact. Heat shrink tube with adhesive would be the best option.

### 3. Output Relays :

ZD-18 provides 2 Output Relays for controlling remote devices (Electric valves, NO/NC inputs etc). In case of alarm, Relays will change their state. Each Relay provides Normally Open [NO] and Normally Closed [NC] contact group with use of common wire [COM].

*Fault Relay* changes its state when Cable Break Alarm occurs. Its state changes back only after cable is —fixedll. It is normally energized to monitor Power Failures. [NO] means a normal working state with no faults coil energized and contacts are OPEN.

*Leak Relay's* coil gets magnetized only when actual leak is detected. Thus [NO] means when there is no alarm, coil is not energized and contacts are OPEN. State can be reset to Normal by the RESET Button even if water is still present or after water is being removed from the Sensor



### 4. Connecting Power Cables :

ZD-18 can be powered in one of the two ways:

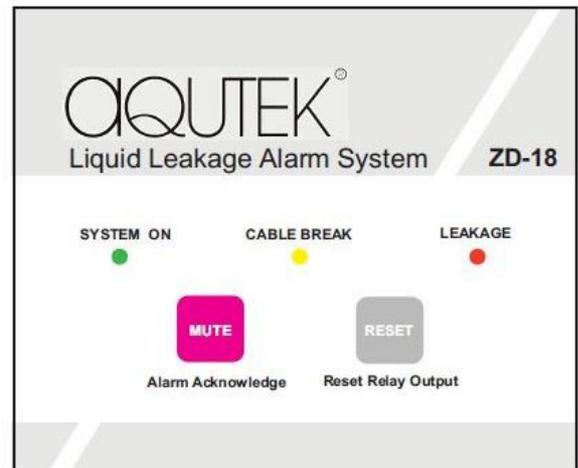
1. 12-24 Volts AC/DC
2. 110 or 220 VAC (depending on the model).

The unit must ONLY be powered by one of the two ways. NEVER connect both 12-24 Volts AC/DC and 110 or 220 VAC terminals to the Power Supply Sources at the same time. If powered by 110 or 220 VAC – make sure the Neutral Wire is connected to “N” and the Live Wire is connected to “L”.

### 5. Control Panel :

ZD-18 has two ways of communicating with a Person:

1. Visual (LED Indicators)
2. Audible (Loud Beeper)



### 6. LEDs :

1. System ON: Green light indicates that Unit is powered up and is running.
2. Cable Break: *Constant* — Cable detected to be broken.  
*Blinking* — Cable is fixed, but alarm is not acknowledged.
3. Leakage: Water detected to be present on the Sensor.  
*Constant* — Water is present, not acknowledged.  
*Blinking* — Water is cleared, not acknowledged.

### 7. Buttons :

1. MUTE / Acknowledgement: a) Shuts down loud Alarm sound from Beeper; b) Acknowledges the Alarm.
2. RESET: Effective only for Leak Alarm. Resets Relay to Normal State. Won't turn off the Beeper or acknowledge the Alarm.
3. Buzzer ON/OFF Micro Switch: Located inside the UNIT on the top Circuit Board. Manually toggles Loud Beeper OFF in case if loud sound is not desirable.
4. Sensitivity Adjustment - Variable Resistor is located on the top Circuit Board near three black Relays. Turning knob CCW- Sensitivity reduces, CW - Sensitivity increases.

