



GSM - IoT LEAKAGE DETECTOR



USER MANUAL

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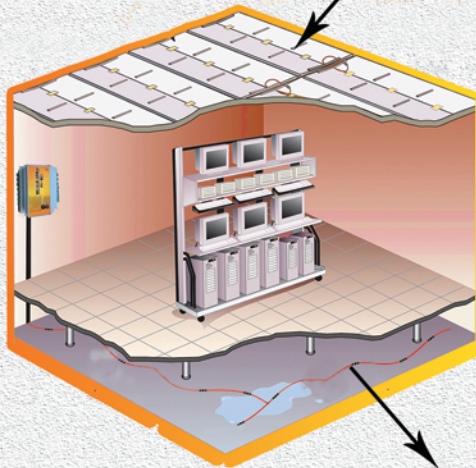
PLACES OF INSTALLATION

Detect Small Leaks ...(**Condensate water overflow, Chiller water leaks, Plumbing line cracks, Heating/Cooling piping leaks, Outside Seepage, etc...**) before damage and downtime occur !



Ceiling Guard

It is a water leak detection system used in suspended ceilings. This system provides early warning of water drips and leaks before damage occurs to the area below.



Water Alert Sensor Cable

It is a unique accessory that expands the capability of the WATER ALERT. Guards against undetected water leakage. Used in large areas or Perimeter monitoring

PLACES OF INSTALLATION



Boiler room



Computer room

Advantages :

Used in a wide range of applications, from Computer rooms to Mechanical rooms... anywhere undetected leakage can occur

Simple Installation - Easily installed in anywhere and handle

Water Alert has been proven to be the most rugged, simplest to install and longest lasting water detector available today



*Avoid this scene...
Respond in Seconds...not Hours !*

DEVICE COMPONENTS LIST



Leakage Detector System

Sound Security Alarm System



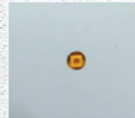
Leakage Sensor

12V Power Supply



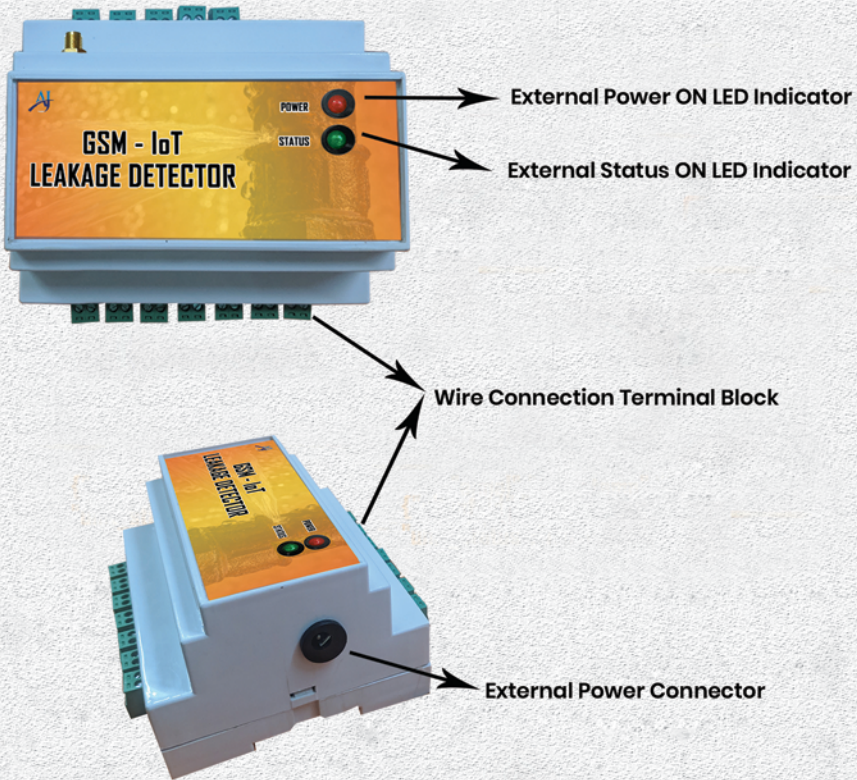
Antenna

Reset Button



SIM800L GSM Module

PRINCIPLE OF OPERATION AND CONSTRUCTION



Leakage Detector is activated by water or any conductive fluid bridging the Leakage Sensor. If power ON, the external LED indicator (POWER) will light **RED**

Upon connection is activated and the server is connected with detector, the external LED indicator (STATUS) will light **GREEN**

During this time the sensing circuit is active, once the sensing is done and connected to the server the alert will continuing the process ; if there is no leakage means, it will automatically moved onto disabled state.

PRINCIPLE OF OPERATION AND CONSTRUCTION

Sensor Cable

The Sensor Cable is a multi - conductor wire sensor, act as extensions of the sensing probes contained within the Water Alert detector.

Should any of the sensors come in contact with water the Water Alert will activate.

One or Two Sensor Cables can be connected to any Water Alert.

These connections are made with non - gender, locking connector for a fast and durable installation.

If desired, the cable may be kept in place along the floor.



For large areas or perimeter monitoring the Leakage Detector system is your best defense against downtime due to water leaks and floods!

By using Leakage Detector in combination with Sensor Cable the user can purchase a system specific to their needs, from a simple local audible alarm to a large monitoring system.

Features :

Sensors every 3 feet for practical and effective coverage

3 Standard lengths to match your requirements

Local audible alarm - eliminates need for maps

Cable quickly dries providing no - fuss repeated use

Ultra - flexible, low memory cable

No false activations, Simple installation

2 year warranty

WIFI CONFIGURATION

- The device is powered with 12V adaptor. The power LED in the unit starts to glow. This indicate that the unit is powered ON. Connect the Leakage sensor and buzzer to the device
- Now need to configure our device to the IP address to which the device need to connect

The screenshot shows a web browser window displaying the configuration page for a device. The page title is "Device Configuration using WIFI". It contains several sections for configuration:

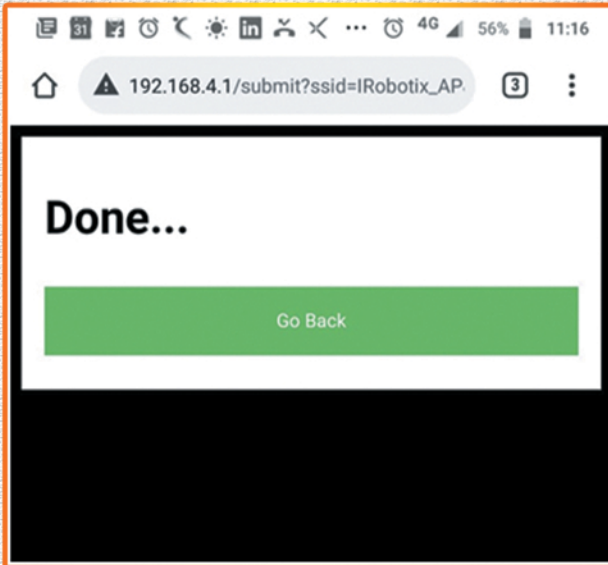
- WiFi Configuration:** SSID is set to "Robotx_AP" and Password is "r!an\$!an".
- MQTT Configuration:** MQTT IP is "0" and MQTT PORT is "0".
- TCP Configuration:** TCP IP is "0" and TCP PORT is "0".
- Other Settings:**
 - Threshold Configuration: "1"
 - Time gap to send response: "0"
 - Buzzer sound:
 - SIM Card APN Setting: "airtelgprs.com" (highlighted with a red box and an arrow pointing to the text "airtelgprs.com" below the input field).

At the bottom right, there are two buttons: "Submit" and "Clear Memory".

- The device will emit a Wi-Fi hot spot with name "Ajlon-Leakage" and password is "12345678"
- Once we connect to this Wi-Fi hot spot through mobile phone or computer with given password. Then we need to type in URL "<http://192.168.4.1>" or "<http://leakage>". The page shown above will open on the browser

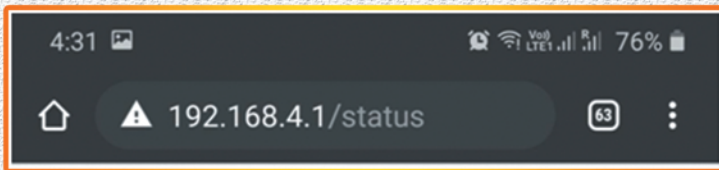
WIFI CONFIGURATION

- Then we need to enter the data for our configuration using Wi-Fi page
- In SSID we need to enter the Wi-Fi IP of the ROUTER to which device has to connect
- In Password we need to enter the ROUTER password
- In MQTT IP we need to enter the MQTT IP to which the device has to send data
- In MQTT PORT we need to enter the MQTT port
- In TCP we need to enter the IP address for which we need to connect
- In port we need to enter to which port we need to connect
- In Threshold we need to enter the Threshold value to monitor
- Then click on Submit button to configure the Wi-Fi
- After the configuration the below page will display



WIFI CONFIGURATION

- When the device is connected to given TCP and port, the green light will glow on the device
- To reconfigure/edit the Wi-Fi configuration, we need to power off the device press the reset button for 1 minute from back side of the device and repeat the process again

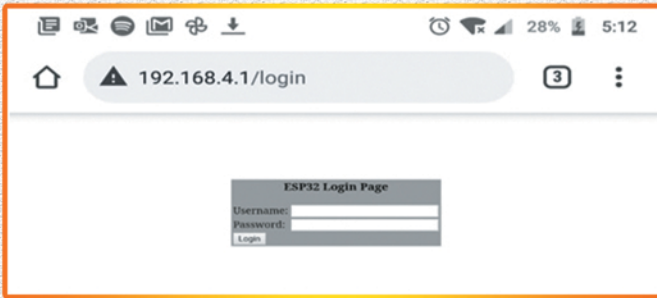


```
{"client_id": "42633173495", "user_id": "ajmal", "timestamp": "7615564543",
"unit_status": "normal", "sensor_01": "345", "threshold": "100", "alert": "0"}
```

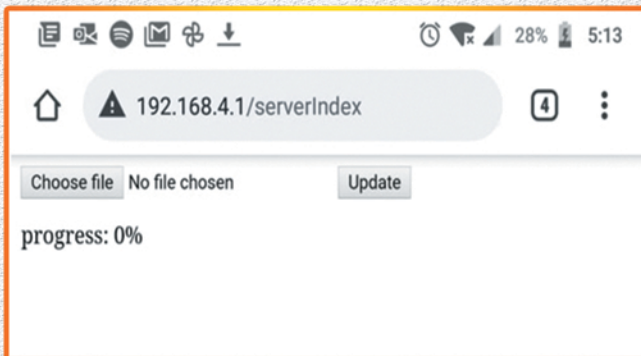
- We can also see our the data send to TCP by typing URL “<http://192.168.4.1/status>” or “<http://leakage/status/>” and the above json data will be responded
- When respected Leakage value gone above the threshold value, the buzzer will produce sound. We can turn off the buzzer sound by turning off the buzzer switch in the device

TO UPDATE FIRMWARE (OFFICE SIDE)

- We need to enter the data for our ESP32 Login Page
- In Username we need to enter "admin"
- In Password we need to enter "admin"
- Click the Login button



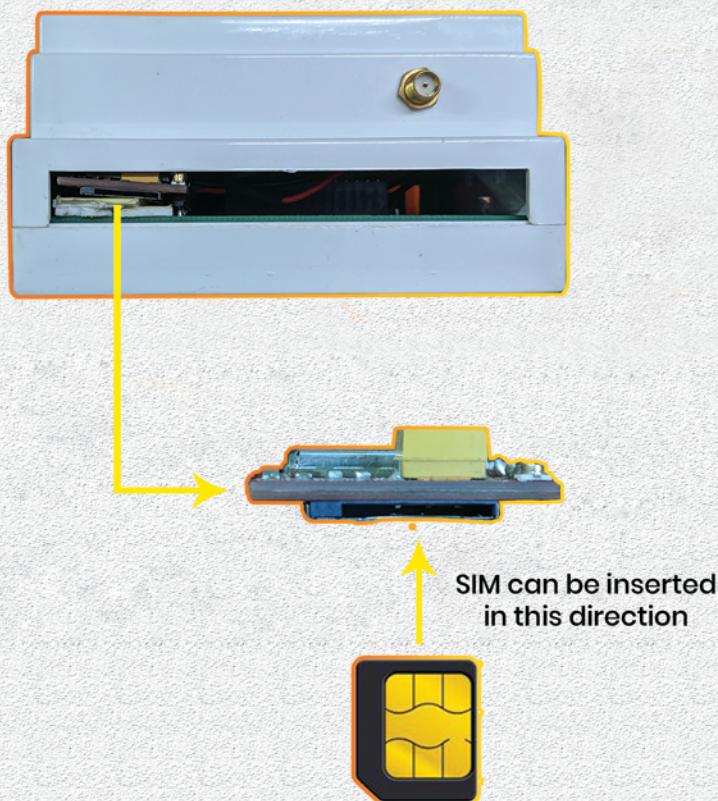
- Then displaying the page for Server Index
- We choose the file for update
- Click the update button
- The program will be automatically updated in the device and the device will be restart



SIM MODULE CONFIGURATION

SIM800L GSM/GPRS module is a miniature GSM modem, which can be integrated into a great number of IoT projects

You can use this module to accomplish almost anything a normal cell phone can; SMS text messages, Make or receive phone calls, connecting to internet through GPRS, TCP/IP, and more!



SIM MODULE CONFIGURATION

At first fix the Leakage Detector, After fixing the device, switch on the device and register the mobile number to the GSM module. Two ways are,

- By using mobile app
- By using SMS
- By making a call

A) BY USING MOBILE APP



- It will move second screen, there press the **"Click here to Register"** to register the mobile number

Click here to Register

- Then you have to enter the GSM module SIM mobile number



- Finally enter the **"User Mobile Number"** and also give **"Index Number"**



SIM MODULE CONFIGURATION

- Up to 10 user number we can able to register, first number is the master number
- After entering each mobile number, press the option "REGISTER"



- At last press back button in your phone, it will return back to second page, there you have to press "SAVE"



- "Initialize" button is used to clear the phone numbers that already registered for receiving alert messages



- After this process, switch off the unit for few minutes
- Then switch on the unit, master number will receive the message system ready

B) BY USING SMS

By sending SMS from your mobile phone, To register the mobile number you have follow these steps,

SEND SMS COMMAND

STATUS

For example,

MR,8976430287,1

:

Mobile registered

MR,9962673502,9

:

Mobile registered

After the completion of the mobile registered switch off the unit for few minutes, then use following commands to switch on the device.

SEND SMS COMMAND

STATUS

#P123456OUT=OFF#

:

DEVICE_OFF

#P123456OUTI=ON#

:

DEVICE_ON

C) BY MAKING CALL

By making a first Call device **ON**, by making a second call device **OFF**



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