INFRASENSING

LIQUID LEAK SENSOR INSTALLATION GUIDE

JULY 2021

OVERVIEW

InfraSensing's leak sensor is an industrial grade solution to detect leaks inside data centers, server rooms, commercial buildings, gas tanks, UPS, outdoor cabinets, power rooms and any other critical facility or infrastructure.

Used with our base unit, the SensorGateway, it will alert you via SMS, email, voice call or SNMP traps.

Through Modbus TCP and SNMP it integrates with any major Building Management system and Network Monitoring system.

WHAT YOU NEED

Base Unit SensorGateway

Leak Sensor + Cable

To start things up, first you would need our SensorGateway (BASE-WIRED), then our Leak Sensor plus one of our various leak sensing cables (for Water, Fuel or Battery/Acid). Each cable has a default lenght of 5m/17ft and can be extended up to 200m/600ft(water leak) or 50m/150ft(water leak location). Custom cable lengths are available.

For pricing and ordering info please visit:
https://infrasensing.com/sensors/sensor_flooding.asp

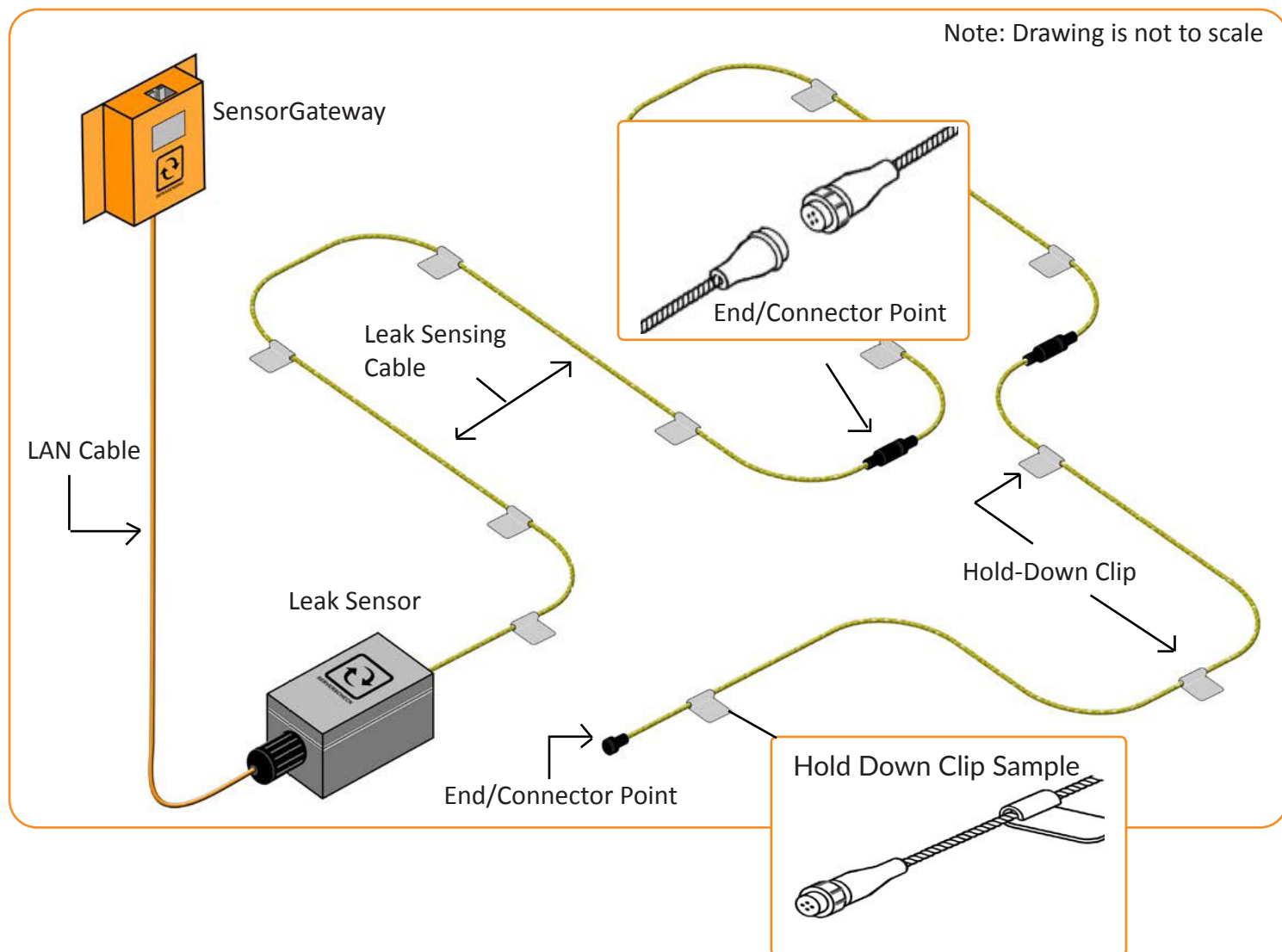# Do's + Don'ts before & during installs

Do's

- Store the sensing cable in its original container and in a clean dry area prior to installation.
- Schedule of installation should be done after major construction work is completed to avoid damage or contamination of the cable.
- Clean the area where the sensing cable is to be installed
- Remove any debris or other source of contamination

Don'ts

- Drag sensing cable through contaminants (Dirt , Oil, cement, solvents, etc)
- Use damaged or contaminated sensing cable
- Solder or weld near the cable (can be done if the cable is protected from heat, flux and splatter)
- Drop sharp or heavy objects onto the cable
- Pull the cable with excessive force
- Use adhesive tapes or clamping devices to secure the sensing cable
- Allow cable connectors to become wet, dirty or contaminated

General layout of leak sensor setup

Note: Drawing is not to scale

SensorGateway

End/Connector Point

Leak Sensing Cable

LAN Cable

Hold-Down Clip

Leak Sensor

End/Connector Point

Hold Down Clip Sample

Installation Steps

Prepare the Area

1. Verify that there are no constructions present,
2. Clean the area where the cables will be installed,
3. Install the Hold Down clips.

   Note:
   Position the Hold Down clips so that you can place the sensing cable in the desired area and make sure that the adhesives are already dry before installing the sensing cable
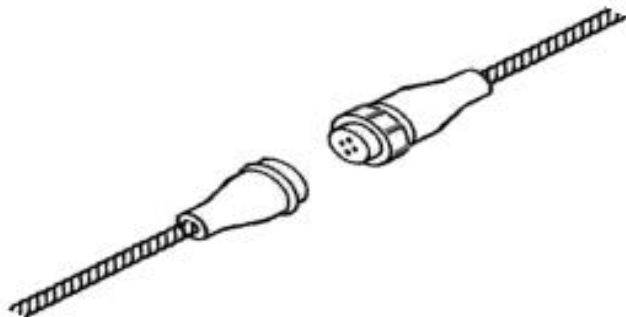
Prepare the Leak Sensor

1. Make sure that each sensing cable is intact and free of contamination.
2. Do not use damaged cables.
3. Observe the Do's and Dont's.
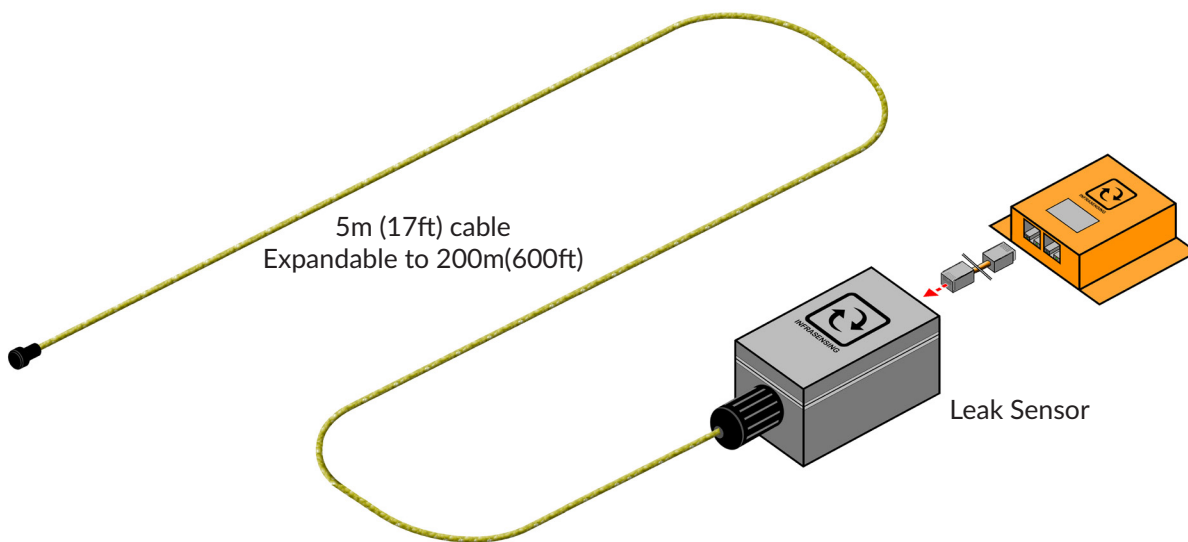4. Connect the Sensing cable to the Leak sensor.
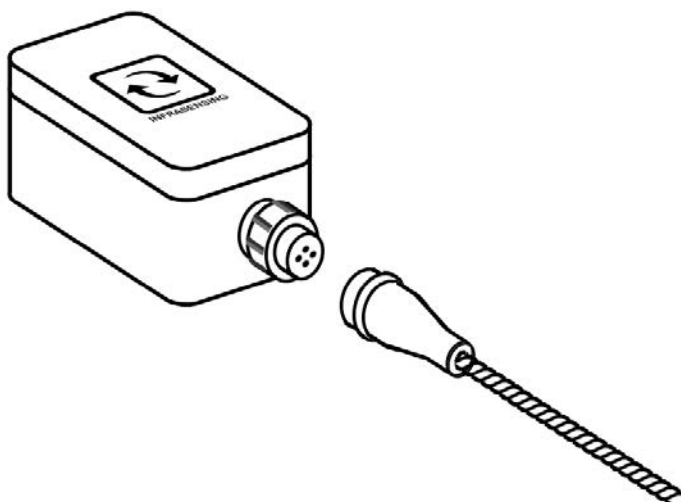
5. For multiple sensing cables, connect to form desired length.

6. Take care to avoid damage and contamination of the sensing cable when being transported to the install location.

HOW IT WORKS

5m (17ft) cable
Expandable to 200m(600ft)

Leak Sensor

Once the sensing cable detects the Leak (water, battery acid or fuel depending on the cable you used), information is then passed to the SensorGateway. This will then trigger an alert either through email, SMS, voice or an SNMP or Modbus compatible software of your choice.

We also invite you to watch a video we've made for this sensor on:
https://infrasensing.com/sensors/sensor_flooding.asp

Leak Location

Our Leak Location Sensor (ENV-WLEAK-LOC) works on the same principle as the traditional leak sensor but with the benefit of being able to pin point the location along the cable. The sensor detects leaks along its cable with an accuracy of up to 15cm (6 inch) and can detect multiple leaks at the same time, with location for up to 2 sequential leaks.

HOW IT WORKS

Detect leak location within 15cm(5.9in)

5m (17ft) cable
Expandable to 50m(150ft)

Leak Location Sensor
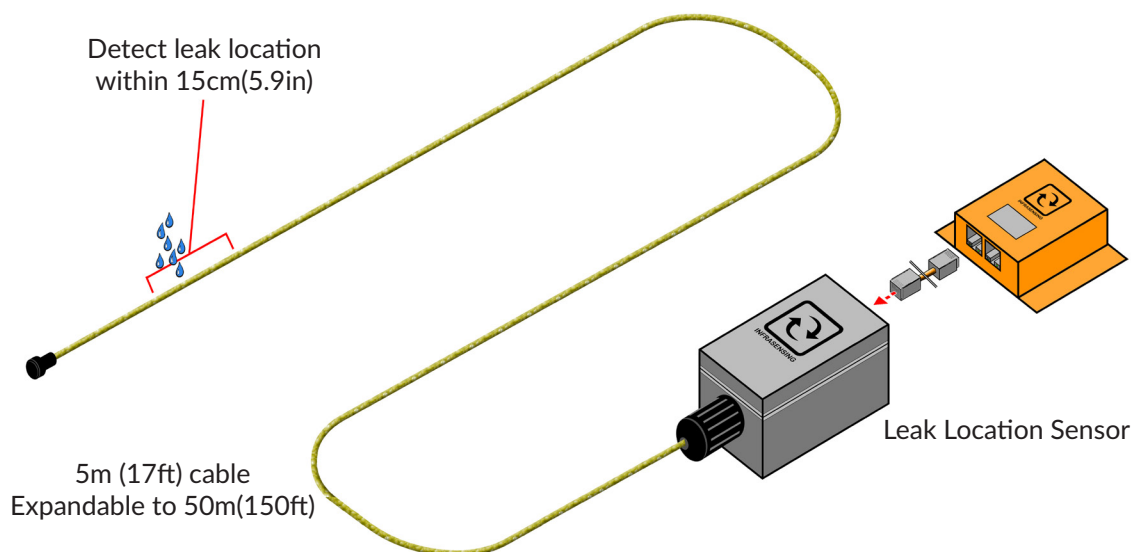
Once the sensing cable detects the water leak, the location of the leak is then passed to the SensorGateway. This will then trigger an alert either through email, SMS, voice or an SNMP or Modbus compatible software of your choice.

We also invite you to view the detailed specifications for this sensor on:
https://infrasensing.com/sensors/sensor_leak_location.asp

INSTALLATION TIPS

A typical Installation inside data centers, server & IDF/MDF rooms would be around Airconditioning units, pumps, windows, or any suspected areas that might be a source of a water leak.
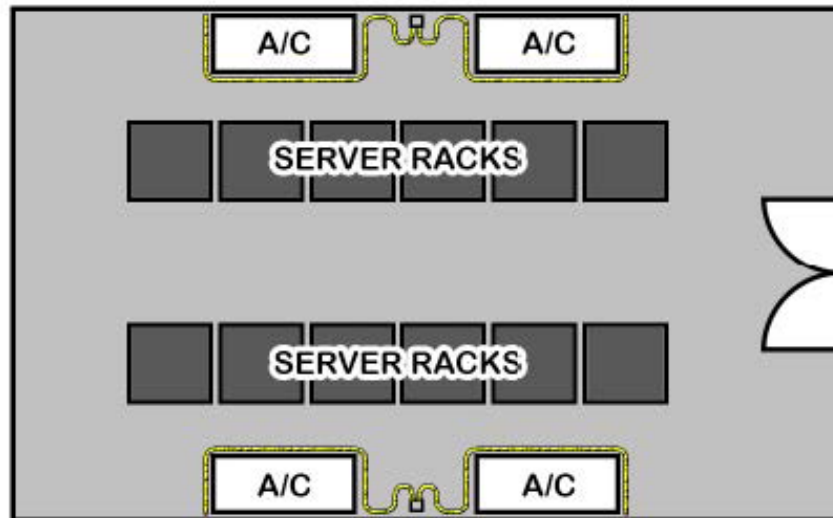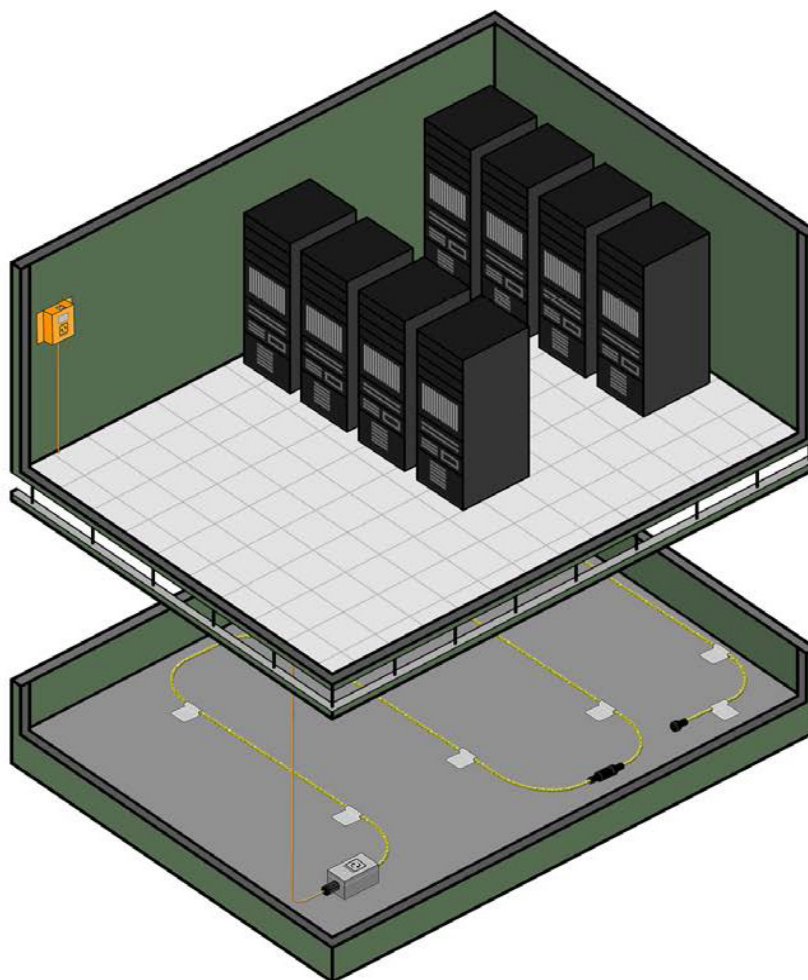
Another possible configuration is to install the water sensing cable around the equipment that you want to protect
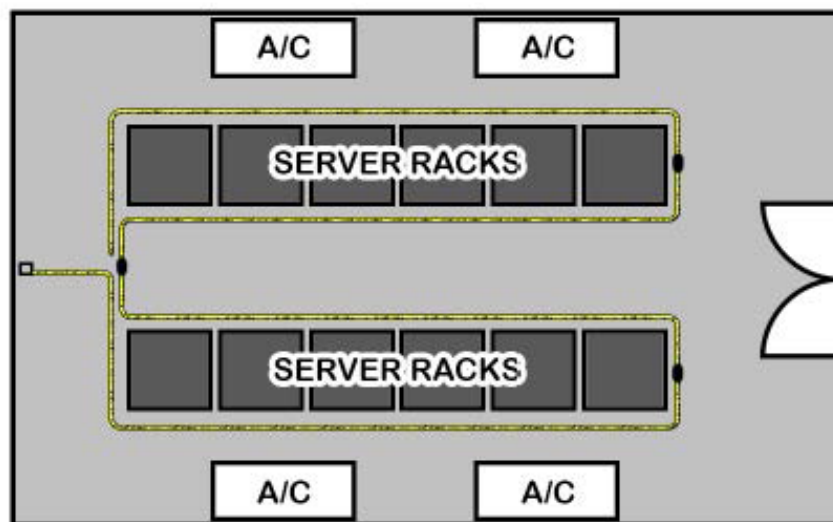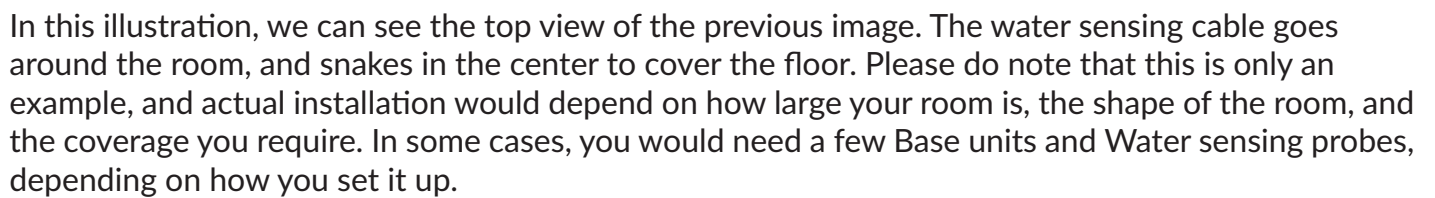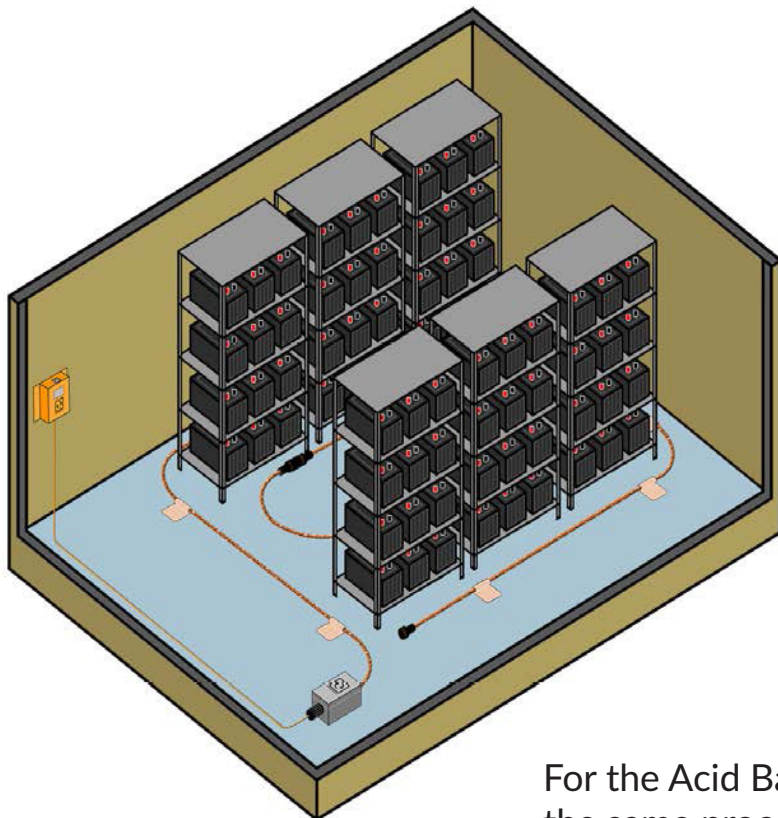
Installing under a raised floor

Here is another example on how to install the water sensing cables under raised floors of a server room. Usually the cable is set around the room, but it is also a good practice to cover the entire area if possible to ensure maximum protection.

In this case, you would be needing a longer water sensing cable. Simply connect additional water sensing cables, and extend your total length up to 200m/600ft (water leak) or 50m/150ft (water leak location).

In this illustration, we can see the top view of the previous image. The water sensing cable goes around the room, and snakes in the center to cover the floor. Please do note that this is only an example, and actual installation would depend on how large your room is, the shape of the room, and the coverage you require. In some cases, you would need a few Base units and Water sensing probes, depending on how you set it up.
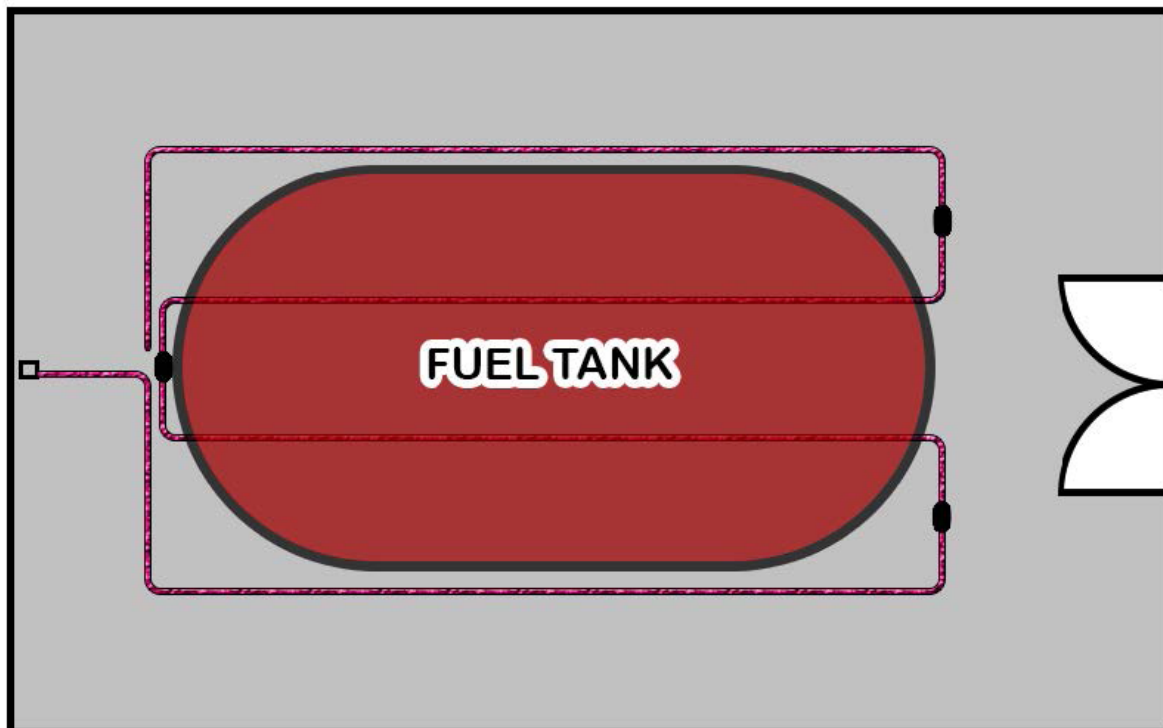
For the Acid Battery Leak Sensing cable the same procedure is applied, We need to make sure we cover possible points where leak can occur
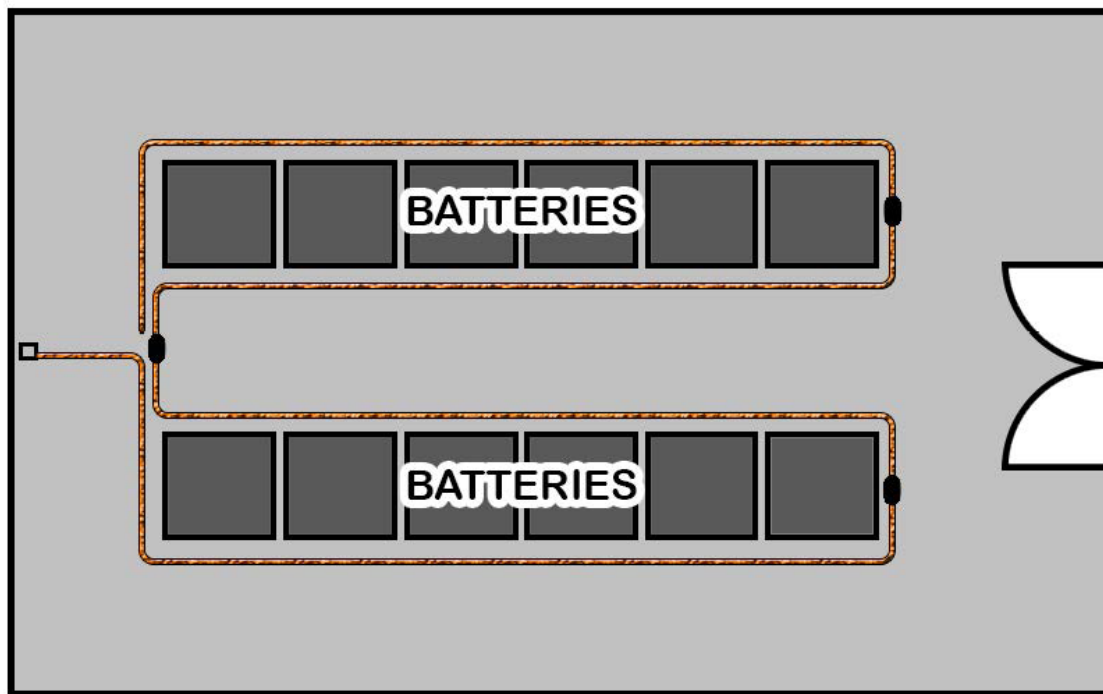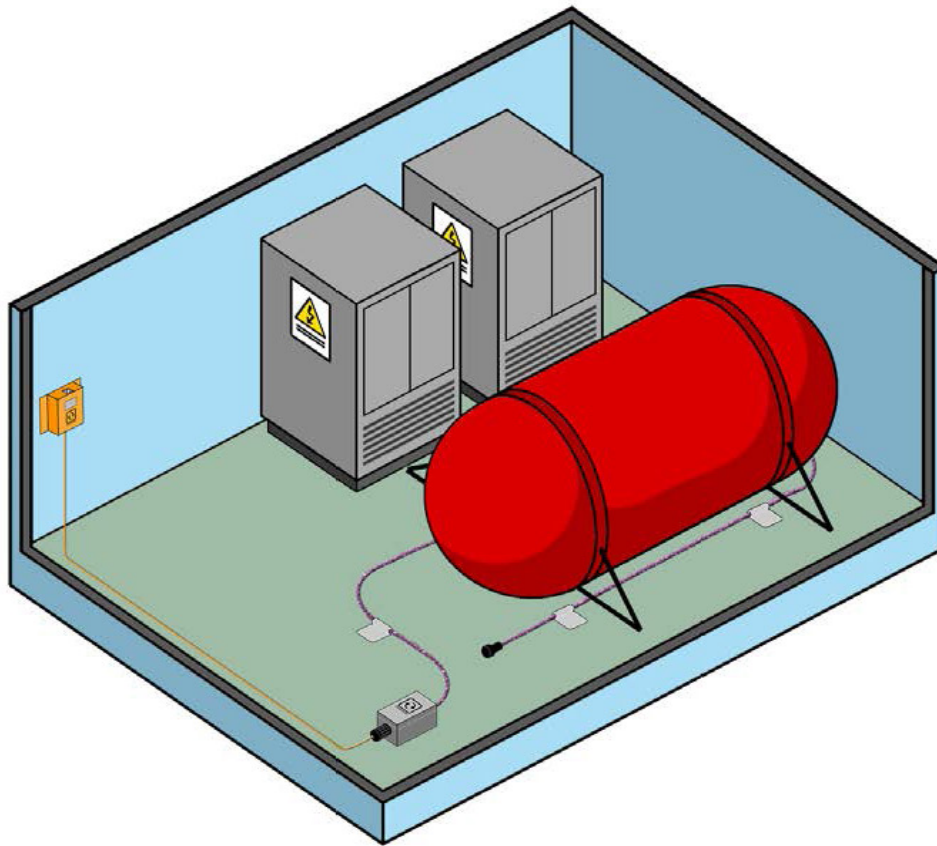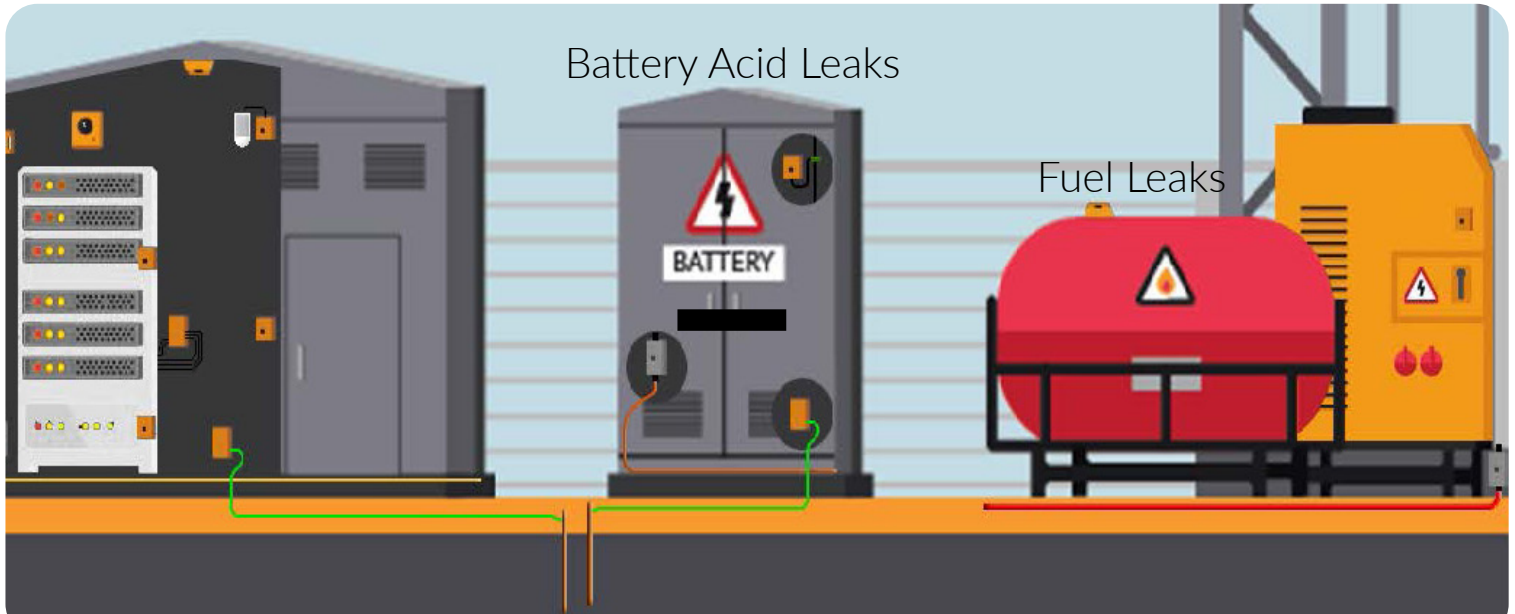
The same procedure is applied when setting up the Fuel Leak Sensing cable

APPLICATIONS

Battery Acid Leaks

Fuel Leaks

• Computer rooms beneath raised floors

• Server/communication rooms to detect water leaks above racked equipment

• Mechanical equipment to detect water leaks from HVAC units, pipes and fittings

• Water supply lines to detect water leaks from suspended hot or chilled water pipelines

• Critical equipment to detect water ingress into electrical pits, trenches and other important areas

• Generator Rooms

• Battery Rooms

• Fuel Tanks above ground

• UPS (Uninterruptible Power Supply) units

• Engine Rooms (within operating range)

• Building service columns to locate leaks near plumbing and electrical accesses to warn about leakage to the floors below
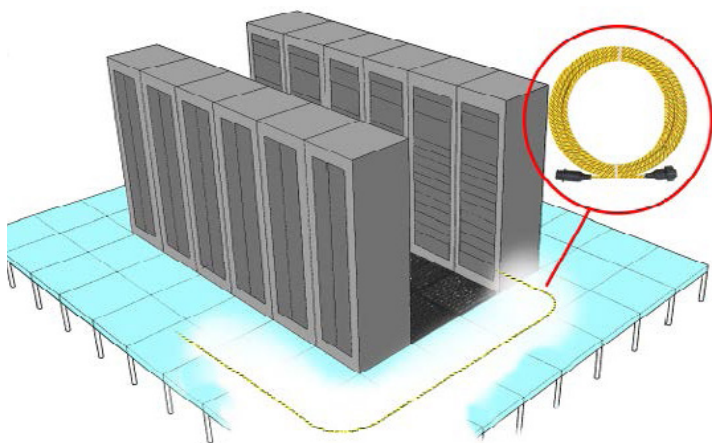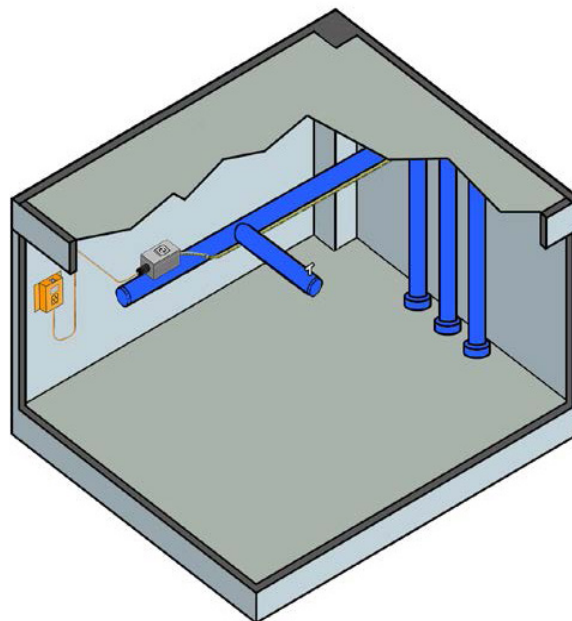
More Applications
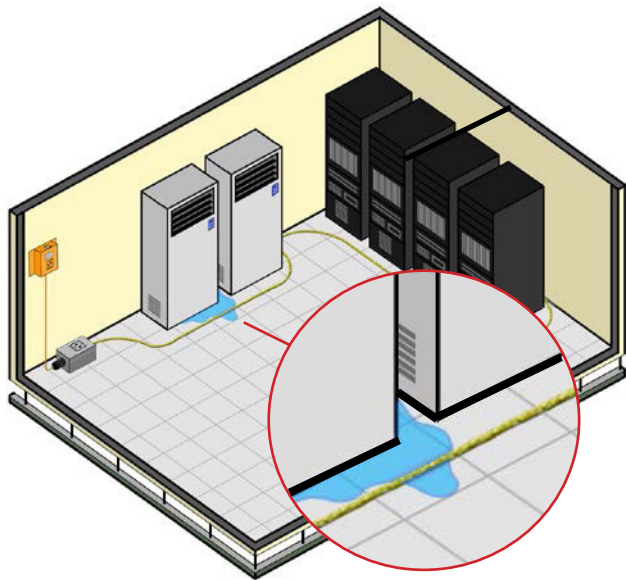
Around air conditioning units
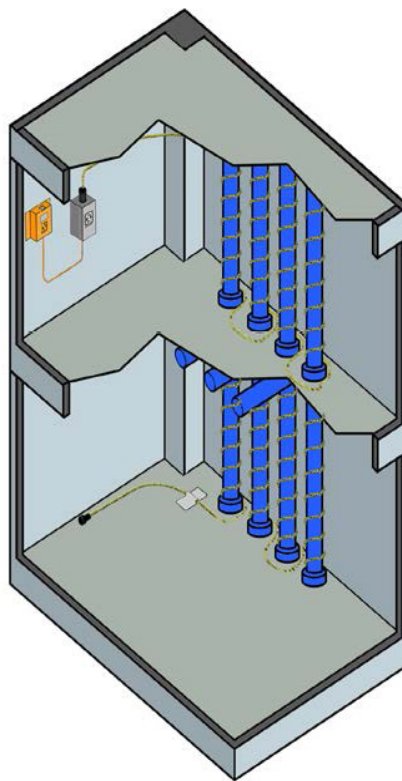
Install it in building columns, near drain pipes and plumbing

Data centers under raised floors

Overhead pipes, sprinklers, and water cooling systems

Integrating with ServersCheck

Getting an alert when a leak is detected is great. But where is it? Seeing a visual representation of leaks is what makes the difference. And that's what ServersCheck does.

With the latest edition of our Monitoring Software or Monitoring Appliance you can now plot the leak sensors on your floor plans, building maps and the software will automatically change the color when a leak is detected.

We invite you to check our software, It is free for personal or non-profit use.
https://infrasensing.com/monitoring-software/

Integrating with your software

The SensorGateway (base unit) supports 4 protocols: SNMP , Modbus TCP, JSON and XML.

Following is a list of online resources showing you how to integrate our sensors with 3rd party software and other systems using the standard communication protocols available in the base unit.

SNMP Monitoring Systems
The base units support 2 methods of SNMP:
- SMP Get: requests can be made to the SensorGateway using SNMP v2 or v3
- SNMP Traps: you can use SNMP v1 and v3

We have created guides on how to integrate our solution via SNMP in some of the leading softwares.
https://infrasensing.com/sensors/api.asp#nms

Building Management & Automation Systems
ServersCheck's base units support next to SNMP the Modbus TCP protocol which enables to integrate the sensors with Building Management Systems (BMS)

We have created a user manual on how to integrate our solution via ModBus TCP through this link.
https://infrasensing.com/sensors/api.asp#bms
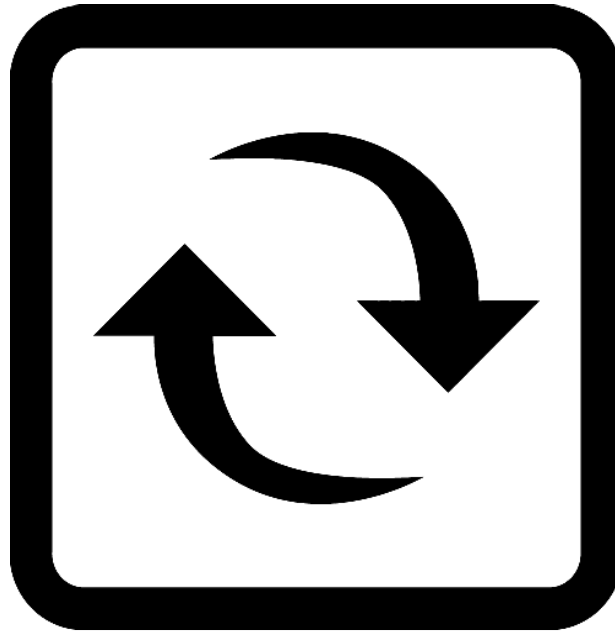
Middleware, scripts and other software
Our solution can also be integrated into your own scripts , web page, middleware or other software. More information can be found on the link below.

JSON
XML
Command Line

Should you know of another online resource about integrating our sensors with other platforms, Contact us and we'll add it to the list.

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