

# ***Catholic Mutual... "CARES"***

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## Water and Temperature Sensors

Have you ever experienced the nightmare of water damage from frozen pipes, a sewer backup, or a suddenly flooded basement? If so, you know how expensive, time-consuming, and draining it is to repair your property and protect it from further damage. Often times, leaks are slow and subtle, causing devastating damage before you even realize they are there. Other times, they can be an instant event which can happen when buildings are vacant and there's a sudden cold snap that cause your pipes to burst. It is important to know there are sensors on the market today which can assist you in detecting water leaks and drops in temperatures. These detectors can help you locate an unexpected water source quickly before major damage occurs.

A **water and temperature sensor** is an electronic and/or battery device that is designed to detect the presence of water and temperature change which provides an alert to reduce the risk of water leakage and potential damage. There are many designs, but common ones include, a small cable or device that lies flat on a floor and relies on the electrical conductivity of water to decrease the resistance across two contacts. The device will alert via an audible alarm, or by Wi-Fi or Bluetooth signals to a smart phone. These are useful in a normally occupied area near any infrastructure that has the potential to leak water from sources such as HVAC, water pipes, drain pipes, boilers, sump pumps, floor drains or water heaters.

### **Things to Consider Before Purchase:**

**Identify Sites** – Best locations to consider for placement of sensors:

- Where are the likely sources of water intrusion in your facility?
  - sump pumps – boilers - floor drains – restrooms - lower level windows
- Where are the likely sources of water failure in your facility?
  - water heaters - toilets/sinks – boilers - pipes
- Where have you had problems in the past?
  - review your incidence or claims history, if any
- Are there high dollar areas you want protected?
  - gym floors – organs – boilers - electrical systems
- What areas are vulnerable to freezing temperatures?
  - Doors – windows - exhaust vents - duct work - chimneys/flues

**Installation** – Does it require professional installation or can it be done in house?

- Determine your technical abilities
  - Are you skilled/qualified to set up these systems to your phone(s) and email account(s) to ensure proper functionality?
- Equipment
  - Hubs - Determine how many hubs will be needed if this system is purchased. A Hub is a device that connects to your router so you can

have wireless connection to the sensors. Based on the system you do purchase, where should they be strategically located for the best connectivity? With a very large church or school, it may require multiple zones, which means multiple hubs, which is an additional expense.

- Sensors – These are the devices you place at your potential water source to alert you to the presence of water or change in temperature. Determine how many sensors will be needed by identifying your potential loss locations. This will assist you in determining which system to consider.

- Application

- Wi-Fi connectivity would be best so long as you are in a geographical area with a strong signal. Additional Wi-Fi routers or extenders may be needed to ensure adequate connections for all areas of the building, especially basements.

- Cellular service for some of these systems may be required. Keep in mind, there is likely a monthly fee for such use.

### **Installation Issues – Security**

- Passwords

- On some devices, it will be necessary to have an email and password in order to receive alerts.

- Operating systems

- It is important to know whether your computer, tablet or smartphone operating system is compatible with your desired water sensing device.

- Wi-Fi passwords

- These will need to be protected. It is important to know the Wi-Fi network passwords for your building in order to connect your water sensing devices.

- App Store

- Some devices may require a smart phone or tablet app to be downloaded in order to monitor each sensor and to receive alerts. Directions from the manufacturer will be included on how to download the proper app and how to setup your water sensing system.

## Service Issues – Strength and service offered in your area

- Wi-Fi service
  - Basements and geographic location, etc. If you are in an area where you consistently have Wi-Fi interruption, you may have to consider a sensor system centered on cellular service.
- Cellular service
  - This may require a monthly fee to utilize.

There are several water sensor systems currently on the market. Catholic Mutual does not endorse any one of these products; however, we do recommend consideration be given to installing water/temperature sensor systems to reduce the risk of water damage at your facility. It is also worth noting that you should research whether or not any of these devices will allow you to install more than one contact number and email address to allow multiple notifications in the event your primary contact is unreachable during an event.

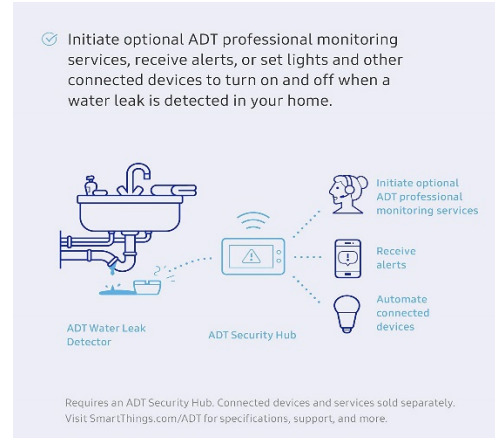
### Sample Products:

#### Honeywell Lyric Wi-Fi Water Leak and Freeze Detector



This water sensor is easy to set up and, unlike some of the other sensors out there, it does not require a hub to work. If you're at your facility when the Lyric detects water, you'll hear an audible alarm that will immediately alert you of the leak. If you are away from the facility, the Lyric connects directly to your Wi-Fi network and has an easy-to-use app that sends alerts directly to your smartphone if it detects water. In addition, it provides temperature and humidity readings. This will allow you to monitor your building's normal conditions – something that will help you monitor warning signs early on if something is not right. The Lyric smart water sensor runs on AAA batteries.

## Samsung SmartThings ADT Water Leak Detector



The Samsung SmartThings Water Leak Detector follows this pattern with a straightforward, easy-to-use app that alerts you if water is detected or if the humidity or temperature falls outside your preset levels, allowing you to personalize the alerts.

The SmartThings ADT Water Leak Detector is a Wi-Fi-connected, multi-function sensor that detects major problems such as water leaks, humidity and freezing or high temperatures. It can be connected to other ADT devices if you choose the service. The Samsung SmartThings Water Leak detector works well beneath toilets, under sinks, near the water heater or other appliances such as boilers. It runs on AAA batteries with a three-year battery life and a one-year warranty.

This system requires a hub that covers the size of a large home. As such, you cannot just put other SmartThings hub in an outbuilding or area and connect them together. There are other possible solutions to this detailed in the following link:

[http://thingsthataresmart.wiki/index.php?title=How\\_to\\_Automate\\_an\\_Outbuilding](http://thingsthataresmart.wiki/index.php?title=How_to_Automate_an_Outbuilding)

This will include the installation of repeaters that will connect other buildings or locations to the main Hub.

## LeakSmart Sensor

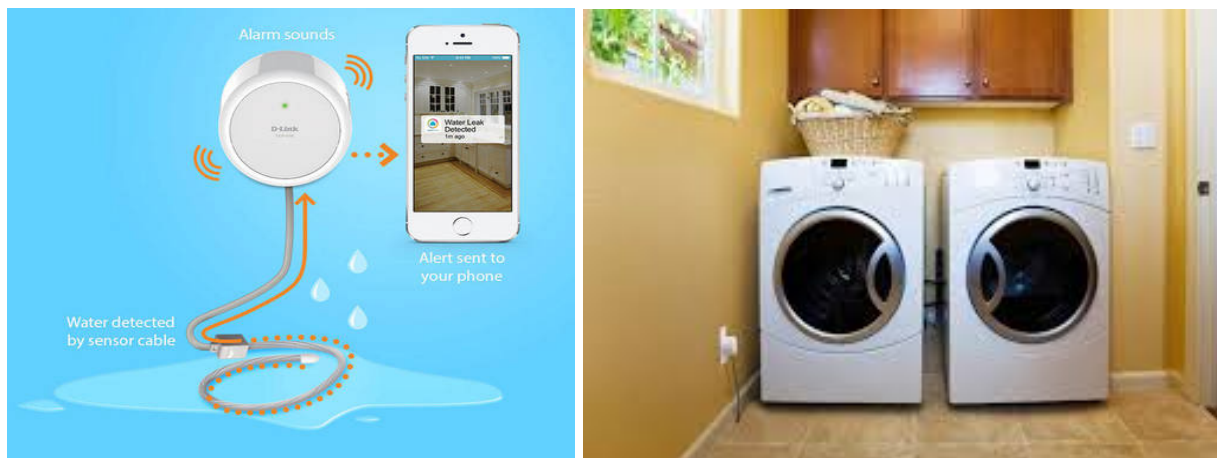


Though a little pricier than some of the other sensors mentioned, the LeakSmart sensor has the potential to save a significant amount of money because it not only detects leaks, it connects to your water main and shuts off all water automatically within five seconds of detecting a leak to prevent the damage from occurring using the LeakSmart Valve.

One leaky toilet, washing machine or water heater can cause thousands of dollars' worth of damage if the leak isn't detected soon enough. You can integrate the LeakSmart Sensor with other smart platforms. If you use Nest smart products, the LeakSmart has some special additional features. It easily integrates with other smart platforms and provides special protection when paired with Nest. The LeakSmart Sensor also monitors temperature, so you will be alerted to any elevated hot or cold drafts that might signal other issues.

**Note:** This sensor will likely require the expertise of a professional technician due to its connection with your water main.

### D-Link DCH-S16 Wi-Fi Water Sensor



The D-Link DCH-S16 Water Sensor has a unique cable sensor. The detachable cable (3.5-foot non-sensing and 1.65-foot sensor cable) includes leads embedded in it, so you can run it along the edge of basement or bathroom floors. If water comes in contact with one of the leads, it will set off an alarm, allowing you to monitor a larger area and receive notice more quickly if any water is seeping in or leaking out.

The base unit plugs directly into the wall, no batteries are required, and the built-in alarm has 70 decibels of sound power and a red blinking LED light, so you may act immediately if needed. You can also connect the device to your phone using the Mydlink mobile app and Wi-Fi to receive notifications if leaks are detected. If you have other Mydlink smart products, you can use the app to allow interaction between the water sensors and your other products for a synergistic effect in your building. You will need to consider if this system is an option for you in the event your electrical power is interrupted and you do not have a back-up generator.

## Zircon 68882 Leak Alert



This sensor offers a unique option of an audible alarm. During storms, there may be no electricity and therefore, no Wi-Fi alerts. It creates a super-loud, battery-powered 105-decibel alarm and flashing SOS alert even if the power goes out, taking your Wi-Fi with it – no smart hub or wiring is required.

The super-loud alarm makes it more likely that a passerby will hear it even if the leak happens when no one is around. And of course, if the Wi-Fi is on, the Zircon Leak Alert sends e-mail alerts that you can check from anywhere. Combine multiple sensors in your facility and name each of them during set up, so that your e-mail alert can immediately let you know which sensor was triggered.