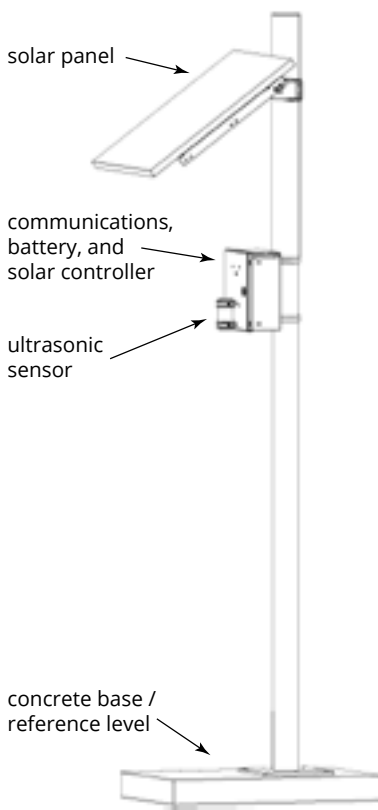


FLOODALERT DETECTION AND NOTIFICATION SYSTEM



Overview

The ATS FloodAlert Detection and Notification System uses an ultrasonic sensor, existing infrastructure/sensors and/or other external data sets to sense the water level in a flood-prone area. The system alerts designated recipients through the TrafficCloud™ web-based platform via text or email when flooding begins to occur. TrafficCloud can also be configured to automatically send messages to variable message signs and/or social apps to notify drivers of the condition.



System Details

The flood warning system consists of a pole holding a sensor box and optional solar panel. The sensor box contains an ultrasonic sensor, processor, cellular modem, and battery or AC supply.

The panel and box should be mounted on a rigid pole at least 2.5" in diameter, placed on a 2'x3' concrete pad, with depth appropriate for the soil conditions, inside the flood zone. The pole should be between 8' and 20' in height. The box must be mounted at least 3' above the highest possible water level. If using the optional solar panel, the panel should be mounted above the box.

The pole's concrete base sets the ground reference for the ultrasonic sensor, so the sensor should aim towards the extended side of the base. Ideally, the reference level (top of the concrete base) should be set at a standard USGS water level depth for the body of water. However, the actual height may be set at any level that is below the height of interest, such as the level of the road or the top of a drainage swale. The base (reference level) should be set at least 3" lower than the water level at flood stage.

Installation should be performed to ensure that objects such as rocks, plants, cars, or pedestrians will not obscure the sensor's "view" of the surface of the concrete pad. The distance between the sensor and concrete slab will be used as the calibration distance.

Once installed, the system is configured with a flood level threshold and a clear level threshold. The ultrasonic sensor continuously monitors the surface

below the sensor and upon the level rising above the flood level threshold, the system will signal the TraffiCloud platform to send a Flood alert that includes the water level. After the Flood alert, the TraffiCloud will begin sending Flood Status alerts—which include the current water level—every 15 minutes while the water is above the flood level threshold. Once the water drops below the threshold level, the Flood Status alerts will stop and an All Clear alert is sent. All three alert types can be configured individually in TraffiCloud to send as email and/or a text alerts to individual users in the same TraffiCloud account.

Sensor

- Ultrasonic-, radar- or laser-based, dependent on location and requirements
- Minimum detection distance: 3 ft. from sensor
- Maximum detection distance: 20 ft. from sensor
- **Resolution:** 0.125 inches minimum
- **Accuracy:** 0.5 inches minimum
- **Sample rate:** < 1 sec
- **Temperature range:** -40 C to 70 C

Compatibility

FloodAlert is compatible with:

- TraffiCloud-enabled signs
- Any external system, service, or product with provided web API (Integration fee may apply)
- Outputs may be added to signal nearby equipment

Notification

- Alerts are sent via email or text address
- Alerts can be sent to as many recipients as desired
- System is password-protected, with three levels of access
- Fully hosted, turnkey web-based remote management
 - Internet-connected computer and browser provides anywhere access
 - No IT infrastructure or support necessary
 - No additional hardware or network appliances necessary
 - No software or middleware to install for remote management
 - Wireless cellular connection provided by ATS with no separate charges
 - Web-based user interface is always up to date and continually receives applicable enhancements
- System can be accessed via API to inform other systems in real-time

Power

- The system can be run on AC or solar power. Power is tailored to the requirements of the installed location.
- **Input:** 12VDC, 6W

Exclusions

Pole, concrete slab, and installation are not included

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