SPECIFICATIONS

Dimensions: 9.15 inches (232.4 mm) long X 4.40 inches (111.8 mm) wide x 4.22 inches (107.2 mm) high (without bracket)

A narrow, powerful ultrasonic beam allows this depth sensor to perform well over long ranges. Integral Submersion Sensor provides detection of flooding at the point of interest.

Long Range Ultrasonic Depth
Minimum Dead Band: 0.0 inch (0.0 mm) from the bottom of sensor housing; Maximum Operating Air

Range: 240 inches (6.1 m)

Beam Angle: +/- 3 degrees

Resolution: 0.01 inch (0.24 mm)

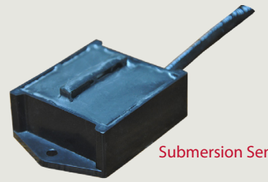
Accuracy: +/- 0.25% of sensor range measurement or 0.13 inches (3.2 mm) whichever is greater, in a homogeneous temperature air column

Drift: 0.0 inches (0.0 mm)


Long Range Depth Sensor

Temperature Compensation: Additional compensation for variable temperature air column supported

Submersion
Detects submersion when fully covered with liquid.

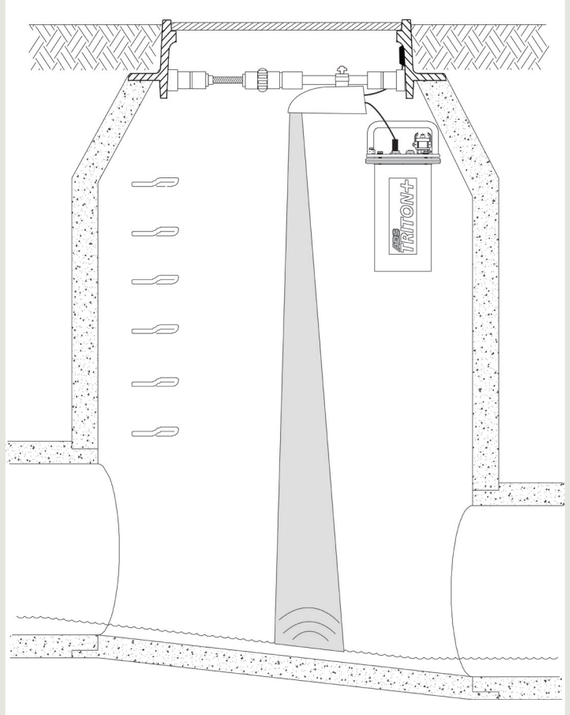

Submersion Sensor

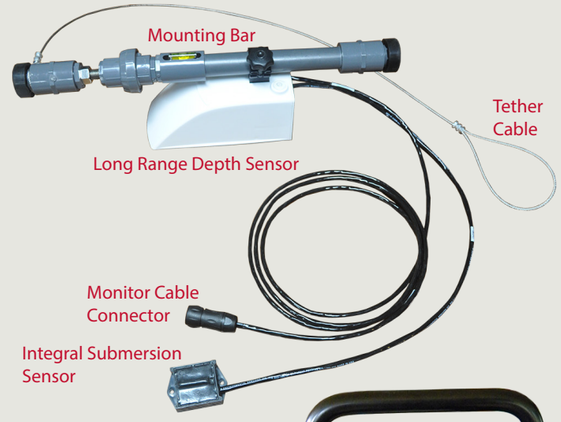
Visit www.adsenv.com/video-library to view the **"How To Install The ADS Long Range Depth Sensor"** instructional video.

Long Range Depth Sensor

The new ADS Long Range Depth (LRD) Sensor measures depth of flow in surcharge up to and including full-manhole conditions, while minimizing the amount of effort and number of tools required for installation. The LRD sensor contains an ultrasonic transducer housed within a parabolic reflector that work in tandem to measure the depth of flow in the manhole. The sensor produces accurate alarms as flow levels cross user-defined thresholds. The separate integral submersion sensor magnetically attaches to the manhole frame to detect when depths are near the manhole lid. The sensor is mounted near the top of the manhole and can measure depths within the manhole structure at a range of up to 20 feet. It can be installed in minutes and requires no manhole entry.

The ADS Long Range Depth Sensor, Mounting Bar and *TRITON*+ Flow Monitor





ADS ***TRITON***+ FLOW MONITOR
The new Long Range Depth Sensor only works with the TRITON+ flow monitor. *The LRD is the latest offering in the TRITON+ array of sensors.*

www.adsenv.com

Specifications subject to change without notice.

DS-ADSLRD-06-30-2023

SEWER OVERFLOWS can have a drastic impact on Utilities, surrounding communities, and of course the environment. Ongoing occurrences of overflows are a political and legal issue that lead to fines, lawsuits and mandated remedial action. The new LRD sensor coupled with the ADS *TRITON+* flow monitor provides Utilities with a high tech level-only monitoring solution to their overflow problems. This flow monitor and sensor combination has the ability to continually monitor and acquire depth information, enabling real-time access to depth data from any site in the collection system. This approach dramatically saves time, lowers cost, and reduces risk.

CSOs can be a major source of water pollution in communities served by Combined Sewer Systems. These systems serve over 43 million people in approximately 1,100 communities nationwide.

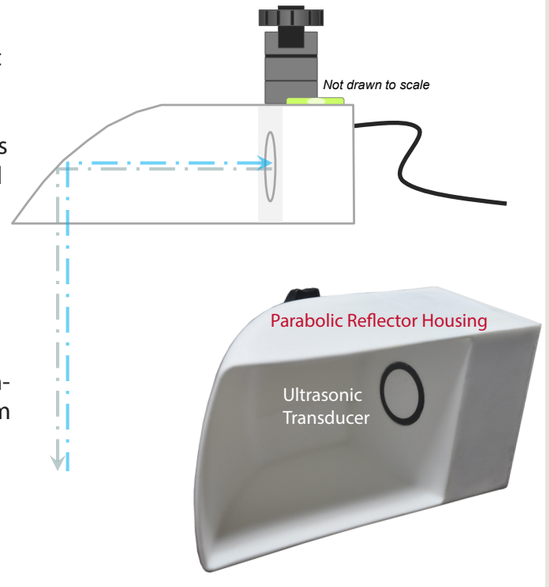
EPA estimates that about forty thousand SSO events occur in the United States each year. The total SSO volume amounts to several billion gallons per annum.

The advanced notification and prevention of SSOs and CSOs can be achieved through continually monitoring the sewer level in your collection system utilizing ADS' *TRITON+* flow monitor and LRD sensor. Clients determine threshold levels for alarm notification and escalation enabling quick response from Utility personnel. Advance notification of rising levels is critical to ensure corrective action can be taken to prevent an overflow.

LRD TECHNOLOGY

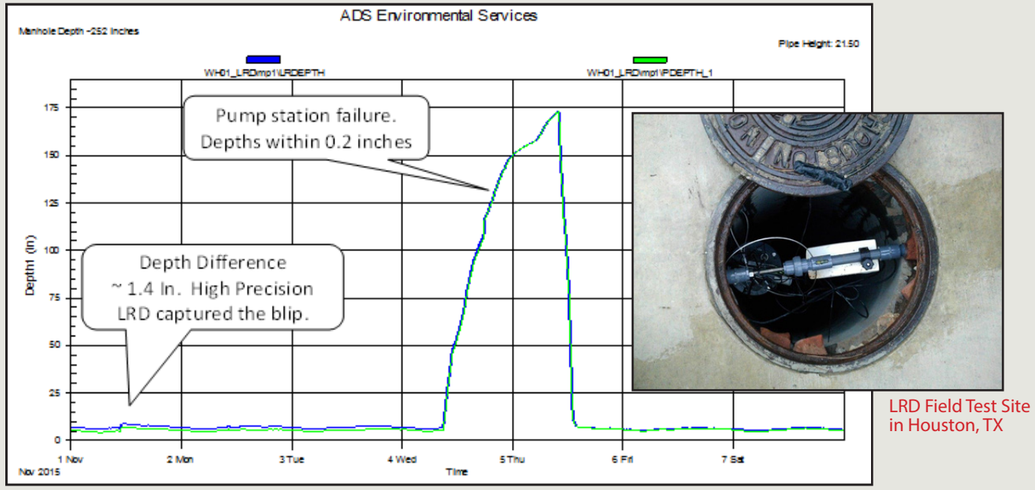
The Long Range Depth Sensor contains an ultrasonic transducer housed within the integral parabolic reflector. The transducer and reflector work in tandem to measure the depth of flow in the manhole. There is a single highly directional transducer to transmit and receive.

The proprietary reflector is optimized to work with the directional transducer. The parabolic reflector produces a narrow ultrasonic beam and allows the collection of weak return echoes. The narrow beam focuses the energy directly to the bottom of the manhole. The sensor can read all the way from the bottom of the manhole to the sensor housing, producing zero dead-band. It is mounted with the face vertical to shed debris and condensation. The housing will also provide protection to the sensor.



FIELD TESTING EXAMPLES

The green line on the hydrograph below represents the pressure sensor in the flow while the blue line represents the LRD sensor looking down from the manhole rim. The hydrograph captures two events of interest. The most apparent is the depth excursion from 9 am on 4 November to 1 pm on 5 November when the pump station failed. The depths differed by only 0.2 inches during the surcharge.



LRD Field Test Site in Houston, TX

The second event of interest is the small blip in the depth midday on Sunday 1 November. Not only did the LRD record the same small changes in depth during the blip, but it also was able distinguish the wa-ter surface from the bench wall at a distance of 21 feet and calculates its depth to within 1.4 inches.