

Solutions for Water and Wastewater



Ultrasonic technology is considered the traditional non-contact method of level measuring in the water and wastewater treatment industry. The non-contact measurement requires no maintenance and offers long lasting solutions that are cost effective.

Ultrasonic technology is based on the principles of pulsed time of flight.

This technology involves:

- The transmission of acoustic pulses to the surface to be measured.
- The return of the acoustic waves through the media (air) and their reception by the sensor.
- The measurement of the time interval between transmission and reception of the acoustic signal.
- The conversion of time into distance or level.

With reference to the speed of sound through air, the exact distance of the liquid surface from the sensor can be calculated with high accuracy (0.15% of the measured distance). Since the speed of sound is affected by temperature, each sensor includes an integral temperature sensor. Level and distance measurements are automatically compensated for temperature variations throughout the operating temperature range of the sensor.

Water and Wastewater plants are usually provide a very reliable environment for ultrasonic level measurement. The challenges of vapor, gases and steam condensation on the face of the sensor generally do not pose any difficulties with applications in this industry segment.

Ultrasonic level measurement technology is also a common method of measuring open channel flow. The sensor measures the head of the liquid as it passes through an obstruction such as a flume or weir. The sensor is mounted above the flume or weir and by measuring the level of the flowing liquid the electronics are able to convert the level into a flow rate.

Open channel flow models of the USonic and USonic-R come pre-configured for over 80 characterizations on 9 different flume/weir types. The USonic and USonic-R can also be customer configured for any characterization for custom flumes and weirs.

Product Suitability

The USonic automatically adapts to virtually all environments and is suitable for a wide range of applications. The USonic and USonic-R offer reliable and accurate solutions for the water and wastewater industry.

USonic™

Preprogrammed characterizations of 9 flume/weir types, custom tables via 21-point strapping.
Interface: 4-20mA HART®.
IP65 (NEMA 4X) housing made of PBT / Valox, or Cast Aluminum.

USonic-R™

Preprogrammed characterizations of 9 flume/weir types.
Additional option for custom programming for any weir or flume.
Calculates flow and totalization.
6 SPDT relays with independent programming of trip points.
Interface: 4-20mA, RS232, RS485
IP68 (NEMA 6-P) housing made of FRP, which is suitable for outdoor installations.
Single sensor version or multi sensor version (suitable for level differences).

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