

CLAIMS

1. An open channel flow monitoring apparatus for measuring a fluid level, the apparatus comprising:
 - a first sensor configured to obtain data indicative of a fluid level below a first threshold level; and
 - a second sensor configured to obtain data indicative of fluid level above a second threshold level, which is lower than the first threshold level;wherein both the first sensor and the second sensor are configured to obtain data indicative of the fluid level when the fluid level is between the first threshold level and the second threshold,
 - wherein the apparatus comprises a housing and a skirt portion that defines a recess within the housing, wherein the first sensor is substantially located within a recess defined by the skirt portion.
2. The open channel flow monitoring apparatus according to claim 1, wherein the apparatus is configured to calibrate the data indicative of fluid level obtained by the second sensor based on the data obtained by the first sensor indicative of the fluid level.
3. The open channel flow monitoring apparatus according to claim 2, wherein the apparatus is configured to calibrate the data indicative of fluid level obtained by the second sensor using the data indicative of the last stored fluid value obtained by the first sensor as the fluid level rises above the second threshold.
4. The open channel flow monitoring apparatus according to any one of the preceding claims, wherein the first sensor comprises an ultrasonic sensor.
5. The open channel flow monitoring apparatus according to any one of the preceding claims, wherein the second sensor comprises a pressure sensor.
6. The open channel flow monitoring apparatus according to claim 5, wherein the pressure sensor comprises a pressure probe configured to project to the second threshold level.

7. The open channel flow monitoring apparatus according to any one of the preceding claims, the apparatus comprising a temperature sensor.
8. The open channel flow monitoring apparatus according to any one of the preceding claims, wherein the first sensor and the second sensor are configured to output data indicative of the sewage level on a single data line, wherein the output data transitions seamlessly from data obtained from the first sensor to data obtained from the second sensor.
9. The open channel flow monitoring apparatus according to any one of the preceding claims comprising a data logger configured to log the obtained data indicative of the fluid level.
10. The open channel flow monitoring apparatus according to any one of the preceding claims comprising a transmitter configured to transmit the obtained the obtained data indicative of the fluid level.
11. The open channel flow monitoring apparatus according to any one of the preceding claims, wherein the open channel flow is a sewer or a storm drain and the fluid level is a sewage or storm water level.
12. A method of measuring a fluid level in an open-channel system using the apparatus of any one of the preceding claims, the method comprising:
 - obtaining, at a first sensor, data indicative of the fluid level below a second threshold level, which is lower than a first threshold level;
 - obtaining, at both the first sensor and a second sensor, data indicative of fluid level between the first threshold level and the second threshold level; and
 - obtaining, at the second sensor, data indicative of fluid level above the first threshold level.
13. The method of claim 12, comprising:

calibrating the data indicative of the fluid level obtained by the second sensor based on the data obtained by the first sensor indicative of the fluid level.

14. A computer-readable storage medium comprising instructions, which when executed by a computer, cause the computer to carry out the method of any of claims 12 or 13.