



Application Case Study

Sump Pit Detection (through the grate)

The Application

Almost every industrial plant has sump pits for collecting spills and contaminated water run-off. Since sump pits are mounted below ground level, a grating usually covers them for worker safety. Sump pits in industrial plants are monitored for liquid level to control pumps for wastewater removal and to monitor spills and leakage.

Sump pits offer unique difficulties for level detection. Because they are basically liquid trash cans, there is no way to predict what will be in them and in what proportions. This causes many problems with contact type level sensors, from coating to changing fluid properties that makes level detection difficult and uncertain. Non-contact devices do not have the detection problems, but they usually require removing a section of the protective grating for access to the liquid surface.



The Solution

An SOR® customer came to us and said, "I want reliable sump pit level detection, but I don't want to remove any grating." So we offered the U71/BDP echOsonix transmitter. This product uses low frequency sound (30 kHz) that has a longer wavelength than other devices. This long wavelength allows better penetration through the metal grating because there is less interference. echOsonix have flexible, intelligent programming that allows it to automatically "tune out" a grating as though it was not there!



The Results

The U71/BDP was mounted about one foot (0.3m) above the customer's sump pit grating. The unit was given the most basic setup parameters (application type, low level and high level) and wired to the DCS system. It performed flawlessly from the beginning and has been reliable through both dry and rainy seasons. The customer now has confidence in his level measurement, and the sump grating is still intact!

Many customers have used the U71/BDP for this application. The benefits discussed above, combined with its ability to detect through foam, have allowed this product to solve chronic problem sump applications in oil and gas, petrochemical, manufacturing and food processing plants. Customers love the reliability and flexibility this product offers for tough sump pit applications.

Ordering Information

Electronics Model **U71-CL7J-00-30**
Integral 110VAC/24VDC Line-powered transmitter
2 x SPDT Relays adjustable over entire range
NEMA 4 EP/VP Integral mounted electronics housing

Sensor Model **BDP-3A-00-0**
30 kHz Transducer for integral unit
3" NPT(M) Threaded process connection