Application Note

Level sensors for water

Throughout the treatment of water and waste water, level sensors for water have become the most important type of sensors to efficiently operate the process. In the past, the most common level “sensors” have been mechanical floats within a tube that would rise and fall as the depth changed. Yet, these units were failure-prone and unreliable, and did not provide sufficient information to cope with rising degree of process automation.

Electronic level sensors for water therefore increased in demand as the need to control processes and the need to automate level monitoring systems increased. The need for higher automation and remote measurement solutions emerged due to the cost of sending a person to look at the level and due to the low reliability of mechanical floats. Thus, new electrical technologies have been developed as level sensors for water. In the more simple solutions, magnets are put in floats and reed contacts placed in the tube guide to give switch outputs or an electrical current is passed down a conductive level probe to close circuits when water is present.

Yet, these technologies only provide simple switch outputs, while in most stages of water treatment a continuous level monitoring is required. Therefore hydrostatic level transmitters were developed, especially optimized as level sensors for water, by using the special submersible pressure transmitter design. This technology has proved to be the instrument of choice by control and instrumentation engineers in water and waste water management as it is a most flexible, simple to install and easy to calibrate level probe solution.

One of the major advantages is that these devices can be placed at the bottom of reservoirs, deep bore wells and tanks to provide continuous level monitoring. These level sensors for water can be submersed almost unlimitedly in depth, as this level sensor is submersed along a cable with freely variable length. Furthermore, as these units are immersed in the media, level probes are also unaffected by any surficial effects such as steam, foam, fat deposits, flotsam or spider webs.

To create really optimized level sensors for water, special methods to prevent water ingress into the electronics and to protect them from lightning electrical surges have been integrated in these sensors and have therefore made submersible pressure transmitters become the *de facto* standard for level sensors for water when continuous measurement is required.

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Although other measuring methods for continuous level control like ultrasonic or radar probes are now available in the market, submersible pressure transmitters remain the first choice for users seeking reliable level sensors for water.

Please find further information on this topic on our information platform www.wika.com/hydrostatic-level

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