Microwave Level Gauge Application Report 44

- *River Water Monitoring* -

The MD-10 micropower impulse radar level gauge features accurate, non-contact, level measurement with simple installation over a target fluid, in this case, river waters.

At this particular site, the MD-10 radar gauge provides stable level measurement of the river's water level, unaffected by atmospherics.

Submerged pressure sensor systems are often used in these types of installations. The sensors detect the pressure exerted by the liquid's mass. Pressure is then converted to level measurement in accordance with preset densities.

These types of gauges are commonly applied in waterworks because of their relatively simple construction and design which involves direct sensor-liquid contact (wet installation). There are disadvantages however with these types of gauges. For example, river bottom sediment may cause an increase in submerged pressure transducer measurement errors.

Microwave level gauges are also frequently employed as a non-contact means of level measurement. This type of gauge measures the round-trip transiting time of high frequency sounds to and from the surface of a liquid and converts this into distance. Ultrasonic level gauges however are easily affected by fog, vapor, pressure, temperature changes, and other environmental factors.

Microwave level gauges, on the other hand, do not require direct contact with liquids, density parameters or complex capacitance comparisons. Microwave-based level gauges are also least affected by ambient conditions.

In addition, the MD-10 microwave level gauge offers RS485 communication protocol so customers can change any parameter from a central computer station with PC and configuration software. The MD-10's 4-key input menu display also allows parameter setting on site as an alternate method.

	MD-10	Pressure Transmitter	Ultrasonic
Non-Contact	○	✕	○
Vapor (High Temp & High Humidity)	○ Least affected	○ Not affected	✕ Increased errors
Temp. Change	○ Least affected	○ Not affected	✕ Increased errors
Sediment	○ Not affected	✕ Increased errors	○
Durability	○ Isolated from ambient conditions	✕ Wet	✕ Exposed to ambient conditions

[Application Data]
Typical User   :   River monitor
Target   :   River water
Location   :   Dak Nong, Vietnam

[Installation Data]
Main Unit   :   Microwave Level Gauge MD-10
Antenna   :   8 inch cone antenna
Range   :   20m

For more detailed information, please contact your local representative.