

Radar Level Gauge Application Report 41

- Hydro Power Plant Water Monitoring -



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

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

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 the preset densities. This type 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.

Ultrasonic 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.

Radar level gauges, which incorporate electromagnetic waves (microwaves) 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 KRG-10 radar level gauge offers HART 2-wire loop communication protocol so customers can change any parameter from a central computer station with PC and 2

configuration software. The KRG-10's 4-key input menu display also allows parameter setting on site as an alternate method.

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

[Application Data]

Typical User : Hydro Power Plant / Dam plant
 Target : River raw water
 Location : Lao Cai, Vietnam

[Installation Data]

Main Unit : Non-contacting Radar Level Gauge KRG-10
 Antenna : 4 inch cone antenna
 Range : 30m

For more detailed information, please contact your local representative.