NORTH PHOTONICS

Liquid Level Monitoring System

North Photonics LLC provides a full solution for the liquid level monitoring in the oil industries, water tanks, etc. The solution is based on sensing the important parameters of the reservoirs like temperature and pressure using Fiber Bragg grating (FBG) sensors and monitoring and analyzing the data by a user friendly interface.
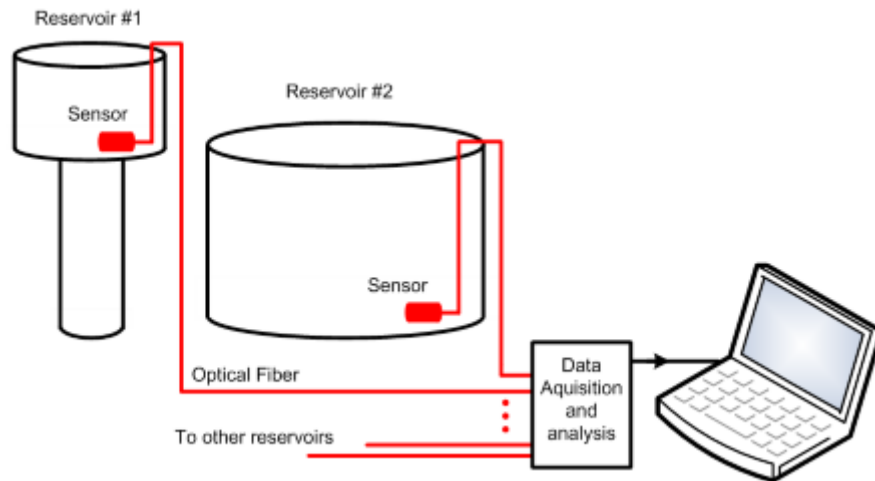

Fig.1. Schematic diagram of liquid level monitoring system

All sensors are based on FBGs and connected to the data acquisition system by the optical fibers, which permits monitoring the reservoirs located in a wide area. The sensors are totally sealed and made from corrosion resistant materials. They can be deeply inserted in or be installed in the body of various types of reservoir containing any liquid such as water, oil, etc. The temperature sensors measure the tank temperatures with 0.1 $^{\circ}$C resolution in -50 to 120 $^{\circ}$C range. The high sensitive pressure sensors measure the liquid level with a sensitivity of better than 1cm for the reservoir up to 10m.

The information of each reservoir is displayed in the computer for continuous monitoring. At the same time, the gathered data are automatically stored in the system for further analysis. This permits the user to have access to reservoir history.

Reservoir	#1	#2	#3	• • •	#N
Temp (°C):	25.3	22.1	28.34	• • •	20.71
Level (m):	8.45	5.12	8.76		3.20
Max ... Min	70%	50%	85%	• • •	20%

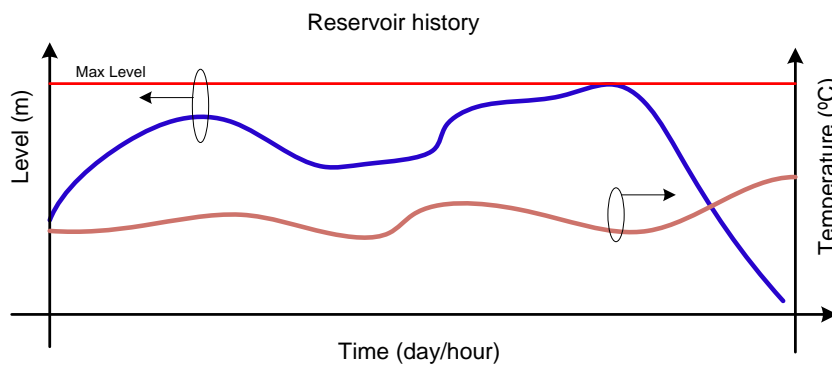Fig.2. Temperature and level of liquid in each reservoir are monitored continuously.

Reservoir history

Fig.2. Reservoir history can be plotted for further analysis.

Features & Benefits:

- Continuous monitoring
- Applicable to any reservoir types and any liquid material
- Fully optical (does not send any voltage/current to the sensors)
- High sensitive optical sensors
- Supports large number of reservoirs located in the wide area
- Can be integrated with the intrusion systems.
- Can be integrated with other optical sensors
- User-friendly interface
- Custom-made solution

Please feel free to contact us at info@northphotonics.com for more information on this product.