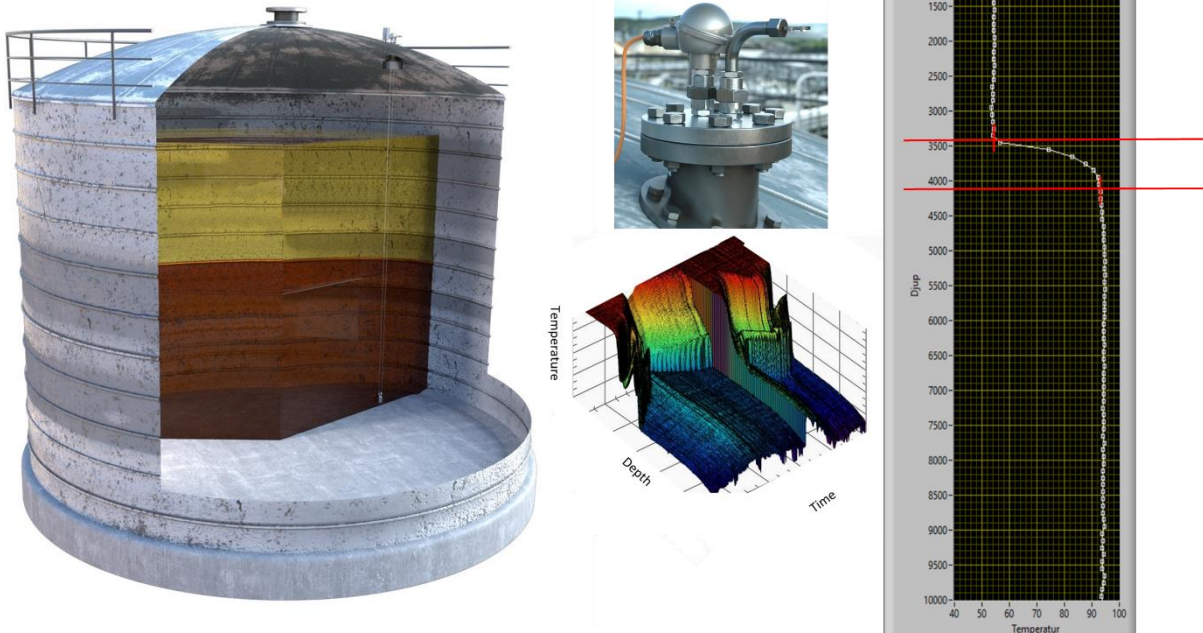


Proximion AB, Product news

Fluid Level Monitoring Via Fiberoptic Temperature Sensing

Apr 13, 2026



The monitoring and control of fluid interfaces is critical in numerous industrial processes. There are many technologies for providing simple liquid measurements, but these technologies can be inadequate for more complex measurements, for example:

- Multiple fluid interfaces, including soap or foam layers
- Large fluid depths with high-resolution measurement needs
- Explosive environments
- Cryogenic fluid environments
- Environments with high electromagnetic interference
- Environments where nucleonic or radiometric sources are unwanted

Innovators at Swedish company Proximion AB have developed a unique fluid level monitoring system using the company's long-established fiberoptic distributed temperature monitoring technology. The system can be customised to suit many different applications, including those where the above-mentioned complexities exist.

By densely monitoring the vertical temperature profile within a fluid vessel, the fiberoptic system can detect, with high resolution, any fluid interfaces where a temperature discontinuity is measured. The system can detect interfaces between different liquids or gases, liquid/gas interfaces, and liquid/foam or foam/gas interfaces.

For closed systems in near or total thermal equilibrium, the Proximion innovators have developed a technique for identifying fluid interfaces using a novel anemometry method to detect changes in fluid thermal diffusivity.

The system can be customised for any vessels height, from less than 1m, to 40m or more. The temperature measurement range of the system is 650°C to -250°C (920 to 20K), allowing its use from the high temperatures of steel casting and chemical reactors to the cryogenic temperatures of air liquification or liquid hydrogen production and storage.

In addition, the combination of precise temperature profiles and fluid interfaces, allows the system to calculate not only the stored volume of a particular fluid, but also the stored mass, via a temperature to density transformation. In the energy industry, this uniquely allows the amount of stored energy to be measured in real-time.

Proximion technology experts will be available to discuss the system and provide a live demonstration at our Sensor+Test booth.