

Radar level measurement transmitter provides reliable readings in difficult mining application

Process Instrumentation and Analytics



Built-in alphanumeric display is standard and easy to read, even down to -22 °F.

A raw-materials mining company in the western United States provides customers with soda ash, sodium sulfate, and boron minerals. Sodium sulfate is used in the manufacture of powdered laundry detergents and the kraft process of paper pulping. Other uses include: products for defrosting windows, carpet cleaners, and starch.

Challenge

In the process of producing the sodium sulfate, brine water is mixed with the sodium sulfate to create a slurry. The slurry is then sent to an evaporator to produce crystallized, anhydrous, sodium sulfate. While the slurry is in the mixing tank, the company has a need to monitor the level in the tank.

They were previously using a DP (differential pressure) pressure transmitter for that measurement, but were repeatedly encountering maintenance issues. The sodium sulfate slurry tends to crystallize and coat or plug-up contacting-type level

measuring instruments. This leads to erroneous measurement readings and repeated maintenance to clean the contacting sensor orifices. The customer wanted a level measurement method that was more reliable in that environment and required less maintenance.

Solution

After looking at a number of other technologies and suppliers, the customer chose a SITRANS LR200 radar level measurement transmitter from Siemens. The Siemens radar transmitter worked right out of the box. The graphical local user interface (LUI) makes operation simple with plug-and-play setup using the intuitive Quick Start Wizard. The non-contacting measurement method alleviates the need to continuously clean and maintain the instrument, the Process Intelligence® signal processing allows for improved measurement reliability, and Auto False-Echo Suppression helps to ignore the signals caused by fixed obstructions.

The patented infrared Intrinsically Safe hand-held programmer lets you program the SITRANS LR 200 transmitter, even in hazardous areas, without opening the cover.



Benefits

- *Cost savings* – No need to continuously clean and maintain; the non-contacting sensor saves the company time and manpower.
- *Safety* – The option to program the instrument using an infrared, intrinsically-safe, hand-held programmer allows the user to set up the instrument a safe distance from the mixing installation. The instrument can also be configured via HART using SIMATIC PDM.
- *Siemens global network* – Sales and support are available in your neighborhood. Our extensive global coverage means you get sales and support when and where you need it.

About the SITRANS LR200 radar level transmitter

The SITRANS LR200 instrument is a 2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m (66 ft). Its unique design allows safe and simple programming using the intrinsically-safe, hand-held programmer without having to

open the instrument's lid. It also features a built-in, alphanumeric display in four languages.

The SITRANS LR200 transmitter has a standard uni-construction, polypropylene rod antenna that offers excellent chemical resistance and is hermetically sealed. The uni-construction antenna features an internal, integrated shield that eliminates vessel nozzle interference. The SITRANS LR200 instrument is also available with Teflon rod antennas and stainless steel horn antennas in different dimensions to meet the application requirements. Built for harsh environments, SITRANS LR 200 transmitter features safety approvals for hazardous areas including explosion-proof and intrinsically-safe.

Start-up is easy with as few as two parameters for basic operation. Installation is simplified because the electronics are mounted on a rotating head that swivels. This allows the instrument to line up with conduit or wiring connections, or simply to adjust the position for easy viewing. The SITRANS LR200 instrument features patented Process Intelligence signal-processing technology for superior reliability.

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