



Reliable level measurements in cement silos

Situation

A cement batch plant in the eastern United States combines cement, fly ash, and water to produce end user cement. Products are loaded into cement trucks for distribution to construction sites. Reliable indication of product levels in their silos is required to prevent over filling of silos. The level measurements also provide an indication that there is a sufficient amount of product available to produce a truck load of cement.

Challenge

The plant had been using “yo-yo” type level devices. These instruments were not consistently reliable because of moving parts and product buildup on the “float” ball. They required periodic maintenance to repair and replace the broken or worn out parts. The plant manager was looking for a more reliable and less labor intensive method of level measurement.

Solution

The local Siemens sales partner demonstrated the Siemens SITRANS LR260 radar level transmitter for the customer. The SITRANS LR260 instrument is a 2-wire, 25 GHz pulse radar level transmitter designed for continuous monitoring of solids in storage vessels, to a range of 98.4 ft (30 m). They produce reliable readings even with extreme levels of dust and high temperatures.

The SITRANS LR260 instrument includes a graphical Local User Interface (LUI) that improves setup and operation using an intuitive Quick Start Wizard, and echo profile displays for diagnostic support. Startup is easy using the Quick Start wizard with a just few parameters required for basic operation. The SITRANS LR260 transmitter’s unique design allows safe and simple programming using the Intrinsically Safe handheld programmer without having to open the instrument’s lid.

Process Instrumentation

Answers for industry.

SIEMENS



A SITRANS LR260 unit was installed on each of three silos to provide product level indications. A separate RD-200 unit (a universal input, panel-mount remote digital display for process instrumentation) was used to power each unit and provide display of level. Each remote RD-200 display unit is mounted on a panel located in the dispatch/control room. Before a

batch is produced, levels are visually checked on the respective RD-200 display to determine there is sufficient material to produce a batch. When indication shows that product is reaching a low level, arrangements can be made to replenish the silo.

Benefits

- Cost Savings: Spare parts inventory is drastically reduced
- Time savings: Minimal maintenance reduces manhours
- Improved process reliability: SITRANS LR260 instrument is non-contact and is impervious to dust in the process atmosphere
- Easier to use: Quick Start Wizard requires just a few parameters for startup
- Customer service provided: Local sales partner available for service and startup

Key features

- Graphical local user interface (LUI) makes operation simple with plug-and-play setup using the intuitive Quick Start Wizard
- LUI displays echo profiles for diagnostic support
- 25 GHz high frequency allows for small horn antennas mounted easily in nozzle
- Communication using HART® or PROFIBUS PA
- Process Intelligence signal processing for improved measurement reliability and Auto False-Echo Suppression of fixed obstructions
- Programming using infrared Intrinsically Safe handheld programmer or SIMATIC PDM

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