

# SIEMENS



SITRANS LUT400

## Advancing growth with ultrasonic level technology for fertilizer production



Need to produce more than \$225 billion of crops in one year? You're likely going to need some help. Modern agricultural machinery, irrigation technology, and, of course, fertilizer.

An agribusiness company in Wyoming, US produces 360,000 tons of fertilizer each year, helping the country reach its multi-billion dollar crop yields. And, helping to keep the business running efficiently is Siemens' newest ultrasonic controller, SITRANS LUT400.

### Ingredients for growth

The organization's fertilizer products include Phosphoric Acid, Super Phos-

phoric Acid, MAP Monoammonium Phosphate (Dry Fertilizer), and FSA (Fluorosilicic Acid). These products help replace nutrients in the soil, boosting plant strength and crop production.

Three key raw materials make up the fertilizer products: phosphate ore, sulfur, and ammonia.

The correct mix of ingredients is crucial to the quality of the fertilizer, and the storage of these chemical ingredients is important to both the company and the surrounding environment.

Historically, an older ultrasonic system provided the level measurement of

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Commissioning the SITRANS LUT400 was very easy – with the controller’s Quick Start Wizard, the new level measurement system was up and running in record time.



Accurate level measurement in raw material storage is crucial to avoiding material spills and inventory shortages.

recirculation water in a vessel with a vertical agitator mounted near the top and a sump at the bottom.

The ultrasonic controller, however, was not giving accurate or consistent level readings. Instead, it showed high noise levels and had difficulty reading material levels as the liquid approached the agitator level. Because of the limited space, however, technicians could not move the transducer to a location with a clearer shot.

#### A new controller for better results

Technicians performed a side-by-side comparison between the old controller and the SITRANS LUT400. They mounted an Echomax XPS-10 transducer beside the existing transducer and connected it to the new controller.

One of the client’s technicians set up the SITRANS LUT400 on his first try with the Quick Start Wizard. Using the controller’s Auto False Echo suppression, the technician was able to eliminate the interference of the agitator motor housing and the support cables. Level readings were consistent and accurate, despite the noise of the sump and the obstructions in the vessel.

#### “A huge success” with Siemens ultrasonics

The noise reduction capabilities of the SITRANS LUT400 and the fact that the device can be set up without a manual, makes this controller a timesaver for the company’s engineering and maintenance personnel.

In fact, with only a laptop and the device’s web browser feature, technicians commissioned all of the

SITRANS LUT400s for the expansion projects in the comfort of the control room before installation.

There is also value in that there is no need to change warehouse specification or stock for transducers, as the SITRANS LUT400 is compatible with all of the other Siemens Echomax transducers at this plant.

“This demonstration was a huge success,” says the company’s Instrumentation and Electrical Supervisor. “Within days of seeing how well the controller worked, we changed the specification for ultrasonic controllers in our expansion projects to SITRANS LUT400.”

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