



# Interface level measurement in biodiesel manufacturing

## Situation

A host of measurement tasks must be performed in the production of biodiesel – starting with the delivery of the raw materials and finishing with the shipment of the end product. In order to determine the actual process status throughout the plant, there is a continuous need for information about temperature, flow, level, pressure, and valve position.

It is particularly important that the instruments can be easily integrated with the process automation. In addition, they must provide reliable performance, a long life-cycle, and simple operation.

## Challenge

A U.S. company that manufactures biodiesel fuels has a newly constructed production plant. The production manager needed level measurement instruments to monitor the interface levels in six biodiesel/glycerin vessels. This is an important measurement to ensure

optimum control of the manufacturing process.

Before meeting with the Siemens representative, the customer was considering mechanical-type level gauges for the interface measurements. After comparing the options, it was determined that the mechanical instruments were often more expensive and more likely to break down due to wear and tear on the moving parts. Also, their accuracy can be adversely affected by product buildup on the sensor.

## Solution

After discussing the applications with several vendors, the customer decided to test the Siemens SITRANS LC 300 capacitance level transmitters on the interface application in their pilot plant. Based on accurate performance, ease-of-use, low maintenance, and a lower comparable purchase price than the mechanical device, the customer chose the Siemens capacitance transmitter.

## Process Instrumentation

Answers for industry.

**SIEMENS**



The SITRANS LC 300 instruments are installed from the bottom up in the vessels and provide an accurate, continuous 4-20 mA level signal proportional to the biodiesel/glycerin interface level.

#### Benefits

SITRANS LC 300 combines accuracy and reliability with low maintenance and ease of installation. Patented Active-Shield technology protects the measurement from the effects of moisture, vapors, foam, temperature or pressure variations, and material build-up.

The SITRANS LC300 instrument is a 2-wire level measurement transmitter combining a sophisticated, yet easy-to-adjust microprocessor with field-proven sensing probes. It is available in two versions; rod and cable. It has a stainless steel process connection with a PFA-lined probe. Materials with low or high dielectric properties are accurately measured.

#### Key benefits

- Patented Active-Shield capacitance technology
- 2-wire (loop powered)

- 4-20/20-4 mA discrete output (isolated)
- Fully adjustable range: level, damping, diagnostics
- Current signaling according to NAMUR NE 43
- Integrated local display
- Pushbutton calibration
- Corrosion-resistant construction and wetted parts
- Rugged, shear, and abrasion resistant probe
- 25 m (82 ft) maximum insertion length

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