SIEMENS

Doubled up **dependability from a single device**

Ensuring continuous control with redundant monitoring

In industrial environments where safety is critical, redundant backup is key to prevent operational issues from becoming safety hazards. With the Sitrans LT500 advanced level controller, backup measurement within a single device gives operators the peace of mind they need for continuous operations—even when using two distinct sensor technologies like radar and ultrasonics.

A car has two types of brakes: primary brakes for driving and an emergency brake to hold the car in place when parked. And whereas the more sophisticated primary brakes give drivers the exact amount of control they need, the emergency brake essentially goes on and off when needed.

The result? Extra safety—a feature built into Sitrans LT500, which offers redundant measurement technologies to ensure continuous, reliable, and extra-safe monitoring.

Offering reliable and accurate control in a variety of industries, Sitrans LT500 is key to dual technology monitoring with any pair of level measurement devices.

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A wide range of technologies can be connected to the Sitrans LT500 controller, Sitrans LR110 radar level transmitter and an Echomax ultrasonic transducer are examples.

Peace of mind in challenging conditions

With Sitrans LT500, operators can use multiple technologies simultaneously—like radar and ultrasonics, for example: one "smart" device providing complete transparency and diagnostics, and one redundant device offering a backup reading, its signal typically scaled from zero to 100 percent.

By integrating both devices into one controller, the Sitrans LT500 offers a fail-safe mechanism: if the smart device fails due to environmental factors—such as foam or dust—the other device still ensures measurement continues, reducing the risk of errors, downtime, and potentially hazardous situations. And the technology of the primary and secondary sensor can be of any type—ultrasonic, radar, pressure, guided wave radar, capacitance—essentially anything that can measure level!

This adaptability provides users with the confidence of knowing the device will continue to deliver accurate measurements even in the most challenging conditions. Further enhancing operational efficiency, this setup also reduces the need for manual intervention and even cleanup from spills, which can be costly and time-consuming.

The smarts behind redundant backup

Getting as much information as possible from a level device is typically preferred—the smarter the device, the better, right? But there *are* situations where a redundant sensor setup is sufficient.

Take a submersible pressure sensor, for example: the device simply reads the pressure in an application, which is then scaled to a level signal. This 4-20 mA signal is fed into the Sitrans LT500 and then pump control, alarms, and data logging are applied.

Or perhaps a Siemens Echomax ultrasonic transducer paired with Sitrans LR110 transmitter on an open channel. Both rugged, encapsulated designs, the two sensors send readings back to the Sitrans LT500 controller—the ultrasonic providing backup control, ready to jump in if the radar device runs into problems.

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By seamlessly integrating with a wide range of sensors, the Sitrans LT500 eliminates compatibility concerns and ensures the reliability required for these ultra-safe applications, offering continuous process optimization while reducing overall costs.

Freedom of level measurement choice

And whether companies use a Siemens device with the Sitrans LT500 or retrofit existing sensors from other manufacturers, the controller delivers the same reassurance. This flexibility to choose the most suitable level measurement technology for a customer's specific needs means offering both compact radar devices and ultrasonic level measurement options.

Compact radar devices are especially valuable in challenging environments where conditions like dust, steam, or turbulence might interfere with other measurement methods. Operating effectively in harsh conditions, radar technology providing highly accurate measurements regardless of temperature fluctuations, pressure changes, or other environmental variables.

Its non-contact nature means that radar devices perform reliably without being affected by the characteristics of the material being measured, making them ideal for applications in industries such as chemical processing, oil and gas, and bulk solid handling.

On the other hand, ultrasonic level measurement is a versatile and cost-effective solution, easy to install and maintain. Especially well-suited for applications such as water and wastewater management or inventory monitoring, the technology is excellent for measuring the level of liquids and solids in open channels, tanks, and silos. Additionally, ultrasonic devices are not affected by the dielectric properties of a material, making them an ideal choice for such applications.

They also compensate for changes in temperature, making them the highest-rated sensor for accuracy over radar-based sensors, as proven in Siemens' MCERTS testing lab. Their fully encapsulated design helps to ensure that even in the harshest of applications, reliable measurement is delivered.

Regardless of the sensor technology, however, the Sitrans LT500 can log up to 90 different variables, providing significant advantages for environmental reporting and cloud-based analytics. Without requiring separate controller solutions for each input, the Sitrans LT500 simplifies the process for operators with its familiar interface, straightforward installation, and easy configuration.

Dual technology for maximum reliability

Above all, Siemens Sitrans LT500 is a powerful solution for users requiring precise and reliable level measurements. By combining multiple technology integration options in a single controller, the device provides a redundant measurement system that guarantees accuracy and continuity, even in challenging conditions.

This innovative controller not only doubles up on reliability but allows customers peace of mind so they can focus on the rest of their operations, knowing their level applications are safe and secure.

Published by
Siemens AG

Process Industries and Drives
Östliche Rheinbrückenstr. 50
76187 Karlsruhe
Germany

For the U.S. published by
Siemens Industry Inc.
100 Technology Drive
Alpharetta, GA 30005
United States

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