

Advancing Water Level Monitoring with the HyQuant L: A Breakthrough in Non-Contact Technology: Conversations with Edgar Wetzel

KISTERS Group

“Climate change requires densified forecasting and in turn, this requires densification of stream gauging. Therefore hydrologists are looking for and assessing new technologies to accomplish this with less effort.

Radar is definitely a technology that can help.”

Dr. Anton Felder
Director of HydroMet
at KISTERS



At a time when climate change is reshaping the way we manage water resources, the need for more reliable and efficient water level monitoring has never been greater. Traditional methods, while still valuable, are often labor-intensive and struggle to keep pace with today's challenges — especially in flood-prone or remote areas. This is where new technologies like KISTERS' HyQuant L radar sensor come into play, offering a fresh approach to hydrological monitoring.

Edgar Wetzel, the Global Head of R&D for KISTERS HydroMet, sat down with us to share how this compact, non-contact radar sensor is changing the game in water level measurement and flood forecasting.

A compact, precision tool for the modern hydrologist.

The HyQuant L represents a leap forward in non-contact water level measurement. It uses 60 GHz radar technology to deliver an impressive level of precision — accurate to within ≤ 2 mm. This level of accuracy is a game changer for those responsible for monitoring rivers, reservoirs, and other water systems. And because it's small, energy-efficient, and easy to install, it can be deployed in locations that were once too challenging for traditional methods.

Non-contact technology offers another major advantage — it's not susceptible to damage from flooding or debris. "The sensor is designed to sit safely above the water, making it particularly effective in extreme conditions," Wetzel explains. "You can install it and be confident that it will continue to provide reliable data, no matter what the environment throws at it."

Why non-contact radar is the future of water monitoring.

As Wetzel points out, the pressures of climate change are increasing the demand for more comprehensive flood forecasting. "We're seeing more extreme weather, and that means more frequent and intense flooding," he says. To stay ahead of these events, hydrologists need more data. But densifying stream gauging networks using traditional methods can be expensive and labor-intensive. "That's where radar comes in," Wetzel continues. "It allows us to collect more data with less effort, and the HyQuant L is the perfect example of how we can achieve this."

The HyQuant L provides a simple solution to scaling up monitoring networks. Its non-contact design, low power consumption, and flexibility make it easy to deploy and manage over time. "This sensor allows hydrologists to do more with fewer resources," Wetzel says. "And that's exactly what's needed in today's climate."

Empowering professionals with reliable, real-time data.

For professionals tasked with flood forecasting, dam operations, or water resource management, reliable data is key. The HyQuant L is designed for exactly these types of users. Whether monitoring river levels in a flood zone or ensuring safe navigation in inland waterways, the sensor provides the real-time information needed to make critical decisions. "It's all about giving users peace of mind," says Wetzel. "The HyQuant L delivers continuous, accurate data, even in extreme conditions. And because it's non-contact, you don't have to worry about it getting damaged or requiring frequent maintenance."

This kind of reliability is especially important in today's world, where a delay in flood warnings can mean the difference between safety and disaster. "Early flood detection is one of the most important features of this sensor," explains Wetzel. "It helps users stay ahead of dangerous situations and protect both lives and infrastructure."

Designed for easy installation and minimal maintenance.

One of the standout features of the HyQuant L is its flexibility in installation. The sensor is compact and lightweight, making it easy to mount on a range of structures — from bridges to booms. And with its energy-efficient design, it's perfect for remote locations where power sources may be limited. Wetzel highlights another key benefit: "It uses very little power, just 15 mA at 12V, so once it's set up, it can run for long periods of time with minimal intervention."

This ease of installation and low maintenance are critical for professionals who need to focus on managing water systems, not maintaining equipment. "The less time you spend troubleshooting your sensors, the more time you have to act on the data they provide," Wetzel says. And with multiple communication options, including SDI-12, Modbus, and Wi-Fi, the HyQuant L integrates seamlessly into existing systems.

A future-proof solution for water management.

The HyQuant L isn't just a solution for today's challenges — it's built for the future. Wetzel believes that non-contact radar technology will only become more important as environmental monitoring continues to evolve. "We're just beginning to see the potential of radar technology," he says. "As it becomes more advanced, we'll start to see greater integration with AI and machine learning, which will make our predictions even more accurate."

The future of water monitoring lies in the ability to process more data, more accurately, and respond more quickly to environmental changes. The HyQuant L is designed to meet this need, providing professionals with a tool that's both reliable and adaptable.

The bottom line.

At the end of the day, the HyQuant L is all about empowering professionals to do their jobs better. Its precision, durability, and ease of use make it an essential tool for anyone involved in water level monitoring. Whether you're managing flood risk, ensuring safe navigation, or simply keeping tabs on water resources, the HyQuant L has you covered.

"It's designed to work where traditional methods fall short," concludes Wetzel. "And it gives hydrologists and water managers the tools they need to meet the challenges of today — and tomorrow."

For more information on Hyquant L or other non-contact radar technologies, visit us at KISTERS <https://www.kisters.net/noncontactradar/> or schedule a consultation with our experts today.

KISTERS is a global leader in environmental data management solutions, providing cutting-edge technology to address the challenges of climate change and extreme weather. With decades of experience and a commitment to innovation, [KISTERS](#) empowers industries to make data-driven decisions for a sustainable future.