

ASK THE EXPERT

Industry-tailored Solutions for Water,
Wastewater and Process Utility Applications



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Rosemount's Level and Flow "fit-and-forget" sensor uses radar to allow for precise monitoring and hassle-free operations.

Water is an essential natural resource and needs to be managed effectively to ensure its quality, but also to achieve sustainable development. Inaccurate management of water resources, caused by unreliable technologies or inexistent automated processes, can cause a negative impact on sustainability and increase operating costs at water plants. The Rosemount 1208 Level and Flow Transmitter Series is the solution the industry has been waiting for. Providing accurate and reliable level measurement and open channel flow calculations, the Rosemount 1208 is designed to solve challenges in water, wastewater and process utility applications.

Below, **Vladislav Snitko**, Solutions Engineer for Emerson Automation Solutions, answers some frequently asked questions about the Rosemount 1208 Non-Contacting Radar Transmitters.

Why is the Rosemount 1208 the best solution for these industries?

A: Every industry has different needs and specific requirements that their measurement devices need to meet. In the food and beverage industry, for instance, applications often have strict hygienic requirements, while in the oil and gas industry, explosion proof-design and high measurement accuracy are of key importance.

In water and wastewater, many applications just require a level value to, for example, control pumps or monitor chemical storage. In turn, this requires setup and

configuration to be quick and easy, without any advanced features. However, these applications present environmental challenges that require the sensors to be able to withstand rain, sunlight, snow, submersion and build-up. Additionally, drinking water applications also often require certain approvals, making housing material selection very important. The Rosemount 1208 has been designed for these types of applications, having customers' needs in mind by offering easy-to-use, reliable, and accurate level and flow measurement technology, which enables them to increase the efficiency of their operations and achieve environmental compliance.

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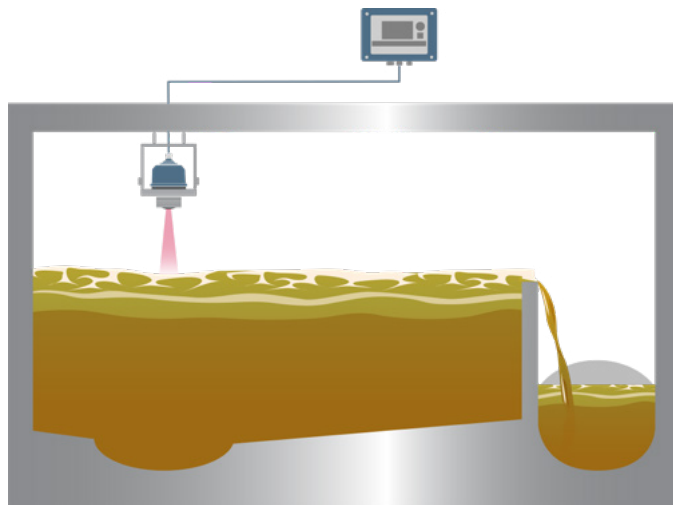
How does the Rosemount 1208 save a company time and money?

A: Well, the Rosemount 1208 uses non-contacting radar technology which delivers reliable readings with no maintenance needs, eliminating maintenance costs entirely. Secondly, the 1208 provides reliable readings even in harsh outdoor conditions, ensuring that your control room reading is 100% accurate and eliminating the need for manual rounds. The 1208 really is a fit-and-forget solution.

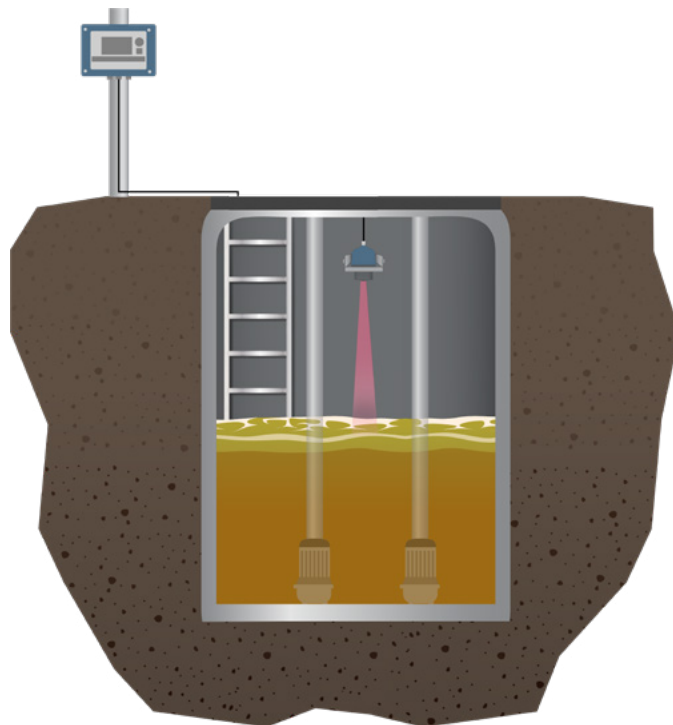
The same cannot be said about many other sensors, such as for instance the ultrasonic level transmitters, which might fail to provide reliable readings whenever there's build-up, turbulence, wind, or foam. These issues often lead to frequent maintenance being needed, which raises the total cost of ownership. A practical example of where the 1208 can help save users money is when installed in combined sewer overflows. In periods of excessive flows, these systems exceed their capacity and discharges the excess wastewater into nearby river, streams, or other water bodies. These wastewater discharges must be monitored and recorded to avoid some heavy fines. Having no sensor or an unreliable one, could potentially costs hundreds and thousands of dollars if the incorrect value is reported.

Rather than using old technology, the Rosemount 1208 uses radar. Could you explain how that works?

A: Radar, which stands for Radio Detection And Ranging, is a technology that utilizes microwaves — which travel freely through the air — and based on the time that it takes for the microwaves to travel back and forth, a level can be measured. We invented this process over 50 years ago, and at that time, our radars had a slightly different area of application, which was equipping Swedish fighter jets' missiles. Compared to other technologies, radar is superior in performance, has a compact size and is now also a cost-effective solution that doesn't require maintenance or calibration. Ultrasonic level sensors are affected by pretty much any process or environmental conditions and, thus, don't deliver accurate or reliable measurements. Hydrostatic submersible transmitters are also prevalent in water and wastewater, but



Combined Sewer Overflow (CSO) Application with Rosemount 1208 and Rosemount 3490



Lifting station or Wet well application with Rosemount 1208 and Rosemount 3490

they are in direct contact with the media, which means that they require frequent maintenance and calibration, raising the total cost of ownership. With the Rosemount 1208, you're talking about a different, highly superior technology.

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Generally, level sensors in the industry either have terminal blocks or factory-fitted cable. What's the reasoning behind the M12 cable connection?

A: Yes, there are many installed sensors with terminal blocks and factory-fitted cables. However, these two options come with drawbacks. With terminal blocks, if the cable or sensor breaks, the user is able to replace one or the other, but terminal blocks are not submersible, so they are not ideal for water applications. On the other side, integral cables are fully submersible but, if the cable or sensor breaks, users need to replace it all, causing a negative impact on sustainability and adding unnecessary cost.

With the Rosemount 1208, we combine the best of both worlds. The M12 connector is fully submersible, and if the cable or sensor breaks, you simply have to replace one or the other. This is beneficial from a service design perspective, but it also aligns well with the sustainability approach of not having to replace a fully functional unit because of a cable break.

Is the Rosemount 1208 compatible with many different protocols?

A: It features both conventional 4-20 mA signals together with digital communication options that are HART® and IO-link. The latter enables connectivity to most fieldbus or industrial ethernet protocols, such as Ethernet/IP, Modbus TCP, Profinet, Profibus DP, etc. The fact that IO-Link is just the sensor protocol is sometimes overlooked. The true value of the protocol lies in it being backwards compatible with a range of host systems.

In addition, we will soon be launching Bluetooth® capability, meaning that customers will be able to configure and view device data on a tablet or phone.

Is any training required to use the Rosemount 1208?

A: We do offer training in the form of "how-to" videos, which can be found on the Rosemount YouTube channel and on Emerson's website. The videos cover all topics related to how to install, how to configure, and how to retrofit the



Rosemount 1208 Series. But in reality, the product is very easy to use and does not require much training to get going.

The Rosemount 1208 is a plug-and-play device, meaning that is simple to order, simple to configure and simple to use. The user just needs to set the reference height, which is the distance between the sensor lens to the bottom of the application. After this, you're done! That's what plug-and-play means. The algorithm in the 1208 is designed to track a moving surface and never let go, which is why setting the reference height is all you need to do.

Why should an end-user choose Rosemount over other products?

A: It's important to note that Rosemount's portfolio does not really stop with the 1208 Series. We are global leaders in pressure, temperature, and flow. So, if you choose Rosemount, we will be able to provide you with a full end-to-end portfolio of solutions. As I mentioned, at level measurement, we've been doing this for over 50 years and the Rosemount 1208 is our 6th generation of frequency-modulated continuous wave (FMCW) radar, this time entirely tailored for water and utility applications. The Rosemount 1208 is our most compact and cost-effective radar to date, and I can safely say that radar has never been simpler.



Rosemount 1208 with straight and angled M12 cable, and other compatible accessories: short mounting bracket, long mounting bracket, plastic flange and stainless steel flange.

To learn more about the Rosemount 1208 Level and Flow Transmitter, please visit: Emerson.com/Rosemount1208

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