

# Improved accuracy in butanol level measurement

## Nufarm reduces measurement uncertainty to less than 1%



Nufarm is a global crop protection and seed technology company established over 100 years ago and headquartered in Melbourne, Australia. As a global agricultural innovator, Nufarm is committed to providing cutting-edge crop protection and seed technology solutions to help growers build a better future. The company offers a comprehensive range of crop protection products, including herbicides, insecticides, fungicides and plant growth regulators, designed to protect crops from weeds, pests and diseases. In the UK, Nufarm employs over 350 people and operates a manufacturing centre in Wyke, Bradford.

“Endress+Hauser have been there every step of the way.”

Ben Ross  
EC&I Reliability Engineer  
Nufarm



Ben Ross



Nufarm's plant in Wyke, Bradford

**The challenge** Nufarm's plant in Wyke, Bradford, requires careful level monitoring in tanks to ensure that chemicals used in the process can be replenished as required, with accurate stock control, and that processes and maintenance work run smoothly without unplanned downtime. The existing radar measurement device in a horizontal butanol tank had become obsolete, and the company was looking for a solution to improve accuracy and ease operations.

**The solution** Micropilot FMR62B is part of the new generation of 80 GHz radar sensors, used for continuous non-contact level measurement in challenging liquid applications. It masters process requirements like high temperatures and high process pressures as well as changing media, making it ideal for chemical industry applications like Nufarm's. An FMR62B device was installed on the butanol tank and a linearisation table was calculated to convert level into volume for precise tracking of inventory and usage within the plant. Endress+Hauser assisted with commissioning, and operations are

running smoothly, according to EC&I Reliability Engineer Ben Ross: “It's been brilliant because Endress+Hauser have been there every step of the way. They calculated the linearisation table using the tank dimensions and pressure and temperature values I provided, so all I had to do was transfer the file onto my tablet and import the table using the installed application software. There's one button to push: it springs to life and then you just write to the device.”

**The benefits** The radar device comes equipped with Heartbeat Technology, which increases measurement reliability, safeguards product quality and retains the required safety levels. It enables quick diagnostics, immediately informing the operator of a device failure or a process that's out of specification. It also provides the user with the highest confidence in the device functionality via in-situ device verification without interrupting the process. “We use Heartbeat Technology a lot,” confirms Ben Ross, “not just for level but for flow and pressure as well. Instead of



Managing devices with the Field Xpert SMT70



Nufarm manufactures a wide range of crop protection products

removing all the instruments during every single shutdown – because it’s a huge job and a safety risk – we can do a Heartbeat verification first to pick up any faults and see if further testing is needed. And we can attach the reports to our CMMS software, which gives us extra visibility.”

The FMR62B also comes with Bluetooth, so devices in hard-to-reach locations can be accessed remotely and securely using the SmartBlue app and industrial tablet, such as the Field Xpert SMT70 for hazardous areas. “The radar’s on top of a tank, so ordinarily you’d need a scaffold just to read an error code, which is obviously time-consuming and expensive,” confirms Ben. “With Bluetooth you can do it from the tablet, it’s non-intrusive and you don’t have to break into the system to do diagnostics.”

The advanced features of the new radar have undoubtedly increased accuracy for Nufarm, reducing the measurement uncertainty to less than 1% with “great feedback from the operators”. Another big advantage is being able to connect the data to the site’s existing DCS computer system to monitor the level and track performance over several years, allowing for better process control and improved operational efficiency.

#### FMR62B benefits

- Highest measuring performance with accuracy of  $\pm 1$  mm
- Increased productivity thanks to monitoring, verification and diagnostics in the running process with Heartbeat Technology
- Remote access to device data using Bluetooth
- Safety by design: Device development according to IEC 61508 for SIL 2 and SIL 3 applications
- Easy handling through intuitive operation and wizards for commissioning and verification
- Quick troubleshooting using recommended actions shown on the display

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