

# Solutions for solid applications

## Simple and efficient level measurements in silos

### Advantages for the customer:

- Reliable measurement performance up to 30 m/98 ft regardless of medium, grain size, surface or dc value – thanks to the highly developed radar chip and 80 mm/3" antenna.
- Heartbeat Technology enables diagnostics and verification during operation without device removal. Certified, verifiable and documented in accordance with ISO 9001.
- Guided setup sequences (called "wizards") considerably simplify commissioning, proof tests and verifications.
- Intuitive remote operation via app and on-device with the color touch display ensuring fast, safe use and control.
- Gas and dust explosion protection certification for Micropilot FMR20B and FMR30B.



Commissioning in five simple steps



Remote access via tablet or smartphone

**Reliable level measurements in silos to avoid process interruptions. Supported by simple and fast operation and maintenance.**

**The challenge** The level measurement in silos must overcome a number of challenges. Large variations in the granularity of materials and demanding media such as dump cones and bulk solids lead to uneven surfaces and highly fluctuating fill levels. In addition, a strong variety in dc values of the media influences the reflection of the radar signal and thus the measurement result. The challenging materials also pose a risk of explosion and of dust formation, which also impact the measuring accuracy. The heights in silos and the associated long measurement distances pose an additional challenge. Not to mention the effects of the changing weather conditions.

**Our solution** The simpler, the better: Endress+Hauser's answer to these challenges is the new product family Micropilot FMR10B, FMR20B and FMR30B. The new radar sensors feature 80 GHz radar technology, meaning measurements are highly accurate and independent from media compositions. They offer a range of individual options such as explosion protection certification for gas and dust and the 80 mm/3" antenna, providing a smaller beam angle and stronger signal, thus enabling a measuring distance of up to 30 m/98 ft. The remote access via Bluetooth makes operation simple and safe, from any point of access.



The new product family Micropilot FMR10B, FMR20B, FMR30B

**Details of the solution** Within the new product family, a highly accurate level measurement is guaranteed by 80 GHz radar technology in combination with a variety of accessories and certifications. Vastly variable surface conditions caused by fast-moving bulk solids are no challenge for these new devices. Reliable measurements are also provided for long-distances (up to 30 m/98 ft) thanks to the option of the 80 mm/3" antenna.

Special solutions are also available for special applications. For example, the Micropilot FMR20B and FMR30B have an explosion protection certification for dust and gas. Users benefit from the simplified operation of the measuring devices, especially in hard-to-reach or hazardous areas. The user interface is intuitive to operate, and all devices can be controlled remotely and securely via Bluetooth® from any mobile device. In addition, the Micropilot FMR30B features a unique color touch display that allows the device to be controlled quickly and safely without having to open the lid.

**Customer benefit** The new Micropilot family has been specially designed for customers who need dependable level measurement in their basic solid applications, regardless of external factors and material properties.

Our compact 80 GHz radar sensors ensure that operation is considerably easy. Installation, commissioning and operation are particularly simple. While connecting to the device via Bluetooth the integrated "It's me-function" allows each radar sensor to be quickly and clearly identified through the flashing LED (Micropilot FMR10B and FMR20B) or display (Micropilot FMR30B). These LEDs and the display also provide precise information on the status of each device during operation.

Guided setup sequences (called "wizards") guide users through the process step by step. They enable commissioning and proof tests as well as verifications to be carried out in under three minutes. All these benefits add up to both improved productivity and reduced complexity.

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