

## Measuring Bulk Materials with Radar



**OPTIWAVE in the Wheat Silo**

Bulk materials offer very different challenges for level measurement than liquids, for example. Operators often find that in their processes the material forms a conical pile, creates a lot of dust and has a low reflective capacity. Radar using cables (TDR) can only be used if the product is not coarse-grained and abrasive, which would break the cable. Contactless measuring, however, can be used even with extremely sticky process media. For such applications, KROHNE offers the OPTIWAVE 7300C, a contactless FMCW (Frequency Modulated Continuous Wave) radar for level measurement.

It is currently the only 2-wire FMCW radar on the market that works in the K-Band (24GHz – 26GHz). The higher frequency makes it possible to use much smaller antennas with the same degree of effectiveness. With earlier devices in the 10GHz range, antennas with a diameter of 150mm to 200mm were required, but with the OPTIWAVE 40mm to 80mm are quite sufficient. This lowers the price and makes installation easier.

### Higher dynamics for measuring bulk materials

When the best pulse radar can no longer recognize the surface reflection of the material to be measured, the OPTIWAVE could still handle a signal 1000 times weaker because of its higher measuring dynamic. This means that the OPTIWAVE from KROHNE is also particularly suitable for measuring bulk materials. The OPTIWAVE has been tested for various highly demanding applications, and has shown outstanding performance without the need for a special antenna - using only the standard DN80 horn antenna - and without any special software. It measures liquids in storage tanks, reactors or process containers, with or without stirrers, as reliably and simply as bulk materials in silos or bunkers. The OPTIWAVE can also be used without any problems in ISM frequencies for open piles of material. The OPTIWAVE is a device for all applications.

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