Measurement through glass

Contactless radar technology obviously has the great advantage that the level can be measured without direct contact with the medium. In typical facilities, a radar sensor is installed on a mounting socket and thus has direct contact with the vessel interior. Since radar signals are able to pass through non-conductive materials such as plastic, glass or ceramic, a radar sensor can even be mounted completely outside of the vessel. Thus, it is possible to measure through windows or even directly through plastic containers. Particularly when using the older radar technology with a transmission frequency of 26 GHz, the window should be inclined at an angle of about 20° in order to deflect any resulting interference reflection from the window to the side. Also when measuring through the top of a plastic container, it was often necessary to place the sensor over an inclined surface of the container in order to reduce any resulting spurious signals.

The solution

With the new VEGAPULS 64 several factors contribute to making the measurement through windows or plastic containers easier. Due to the considerably smaller wavelength of the 80-GHz frequency, the interfering signals are reflected to the side even when the surface is only very slightly inclined. The result is a significantly more reliable measurement without interfering reflections at close range or special mounting arrangements.
The excellent signal focusing, even with small antenna sizes, makes it possible to achieve reliable measurement using much smaller windows than those needed with previous technologies. Special processing of the reflection signals in the close range also makes it possible to reduce the influence of interfering signals directly in front of the antenna system.

The benefits

- Entirely non-contact measurement, with total separation from the vessel interior
- No special requirements on the chemical resistance of the sensors
- Ideal for the pharmaceutical and food industries

Expert tip:
Particularly interesting is measurement right through the walls of glass containers in laboratories, small-scale pilot plants or technical centres. The measurement is carried out without any contact with the medium and requires no openings in the container. The level can be easily displayed on a tablet via Bluetooth connection. VEGAPULS 64

VEGA Controls Ltd.
Metior House Ashdown Business Park
Michael Way
TN22 2DU Maresfield United Kingdom
Tel.: +44 1444 870055
info.uk@vega.com
www.vega.com